THE NATURE AND CARRYING CAPACITY OF RECREATION ENVIRONMENT

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DECLARATION

This thesis has been composed by the author from original research. Some parts of the discussion in Chapter 4, pages 179-187, and in Chapter 6, pages 265-280, have been submitted for publication, in a revised form, to the journal Biological Conservation. This paper, entitled "Zoning and Carrying Capacity Estimates in Canadian Park Planning", was written in collaboration with G.C. Barrow and the author of this thesis was the senior author.

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ABSTRACT

This research, by means of critical reviews of published materials and examples from Canadian systems, examines concepts of environment, recreational need, carrying capacity and systems planning which are central to the planning of park systems. Considerable attention is given to the values of the conservation movement and to the conflict between the goals of park planning authorities which are responsible for both the conservation of particular attributes of natural environment and the enhancement of opportunities for recreation in the countryside. It is suggested that the carrying capacity of a park system, and of its component parks, is related to the structure of the system and that this structure is a product of the conflicts which occur over the allocation of priorities for recreation, conservation and other competing uses of the land. Some ecological analogies are discussed and two case studies presented to emphasise the importance of competition. The first study examines the background to the proposal for a Park System for Scotland and the subsequent adjustments made to it in response to consultation with competing interests in the Scottish countryside. The second study examines the role of similar competing interests in an example of one element of the proposed park system, namely, the Pentland Hills Regional Park.

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CHAPTER 1 INTRODUCTION

1.1 OBJECTIVE

This study has a two fold purpose. The first aim is to explore some of the central concepts underlying the use of land for recreation and conservation, giving particular attention to 'environmentalism', recreational 'needs', and 'carrying capacity'. The second aim is to consider the use of these concepts in the planning and management of parks and park systems, with particular attention to proposals in Scotland.

1.2 CHAPTER CONTENT

This chapter initially sets out the rationale and framework of the thesis. There follows a discussion of terms and concepts central to the study. Many of these are drawn from ecological theory and are widely employed in environmental literature, but sometimes their meaning is unclear or their use inappropriate. Where necessary, therefore, concepts are explained, the alternative meanings of terms are identified, and the meaning to be applied in this thesis is defined. Finally, the relationship between this research and the task of recreation planning is discussed.

1.3 RATIONALE AND FRAMEWORK

The title of this study arose from problems encountered in previous research in which the main concern

was to provide data and information for those involved in making decisions about land use. Throughout this study 'data' are known or ascertained facts from which inferences or conclusions can be drawn, and 'information' is interpreted fact in which a structure of understanding is applied to data. 'Decision-making' involves drawing a conclusion on the basis of the information. In this process value premises and techniques such as decision rules may be involved. The major problem at the time was to ascertain what information was desirable and/or necessary for decision-making, but this search highlighted the value premises involved not only in making a decision but also in the selection and interpretation of the information on which to base that decision. Two fundamental decisions were relevant, firstly, the types of recreation and conservation for which land should be allocated, and secondly, the suitability of land for those uses and the quantity and quality of use that the land would support. The second is familiarly known as 'the carrying capacity problem', and the concept of carrying capacity is discussed in detail in Chapter 6. The aim at this stage is to show that the introduction of qualitative aspects, i.e., values, raised numerous issues that could not be satisfactorily resolved by known methods of resource evaluation. The attempt to understand how to relate objectively measurable attributes of land to values to be satisfied from the use of the land required prior attention to how and why values about land are acquired, and how these values affect

decisions made and actions taken.

Definitions of recreation and of leisure are numerous and the latter in particular is the source of much disagreement. As far as possible, use of the term 'leisure' is avoided and 'recreation' is used in the sense of action taken by choice out-of-doors, in which the relationship between the actor and the outdoor environment is important. As a result, this study is not concerned with all the many activities which can be classed as recreational. For example, little attention is given to activities such as organised competitive sports that require a special allocation of land not generally available for other activities, or to watching sports. With some reservations, it can be said that the subject is 'informal outdoor recreation' but the adjectives are used only when an emphasis is necessary. The discussion concentrates on, but is not limited to, the countryside.

A broad perspective is taken for two reasons. The first is the attention necessary to the relationship with the outdoor environment. There are attributes of the land which are important in addition to the fact that it provides space on which an activity is possible. Many of these attributes are qualitative. The second, and related, reason is that many types of informal outdoor recreation are inextricably bound up with conservation

of the land on which the activities take place. The appreciation of environment and the need for conservation underpin not only the attitudes and behaviour of recreationists, but also the planning and management of opportunities for recreation. Thus the discussion of the nature of recreation environment pays attention to attitudes, as a basis for explanation of the importance of 'place' to recreation behaviour. This is the subject of Chapter 2.

The discussion of environmental concepts draws attention to the debate about quality of life. This issue is one in which the availability and scope of recreational opportunity is highly important, because of the apparent link between an increase in material standard of living and increasing demand for recreation opportunities in general and for activities in which environmental values are critical in particular. Chapter 3 therefore discusses the relationship between values and expressions of need for recreational use of leisure time, and investigates the satisfaction of needs. The provision of opportunities for recreation, in which the role of parks is critical, has become a matter of public concern as the responsibility to satisfy needs and improve the quality of life has been accepted by governments at various levels.

A multiplicity of concepts, conflicts and dilemmas

surrounds the provision and use of parks, and there is increasing interest in park systems as a means of planned provision for the variety of needs now identified. Chapter 4 reviews some concepts of systems planning, in so far as they relate to the achievement of recreation and conservation goals through parks, and refers to some examples of developing and proposed park systems and of systems planning of individual parks. This discussion inevitably raises the issue of non-conformity and conflict between the goals of the planners and the needs of the users, and between the values of different user groups and so leads into the subjects of Chapters 5 and 6.

Chapter 5 presents an examination of issues and events in the movement for rights of public access for recreation in Great Britain, the linking of this recreational interest with that of conservation in the movement towards national parks, and the outcome through the political process, in particular as it has led up to the current park system proposal in Scotland. While in Chapter 5 conflict and the non-conformity of goals are examined as they affect the establishment of parks and related provisions, in Chapter 6 these problems are examined as they effect planning and management within park systems. A discussion of principles and examples of zoning leads into the analysis of the concept of carrying capacity. Through this discussion the

hypothesis is developed that the management of conflict is the key determinant of carrying capacity of a park system, and an attempt is made to feed this idea back into the concept of a park system in terms of its implications for planning.

Chapter 7 attempts to synthesise the contents of the preceding chapters as a prelude to exploring the use of many of the concepts discussed through the proposal for a Park System for Scotland and in an example of one category of this system, the proposed Pentland Hills Regional Park.

Chapter 8 deals with the development of the Countryside Commission for Scotland's proposal for the establishment of a Park System for Scotland. The main subjects are the source and content of the comments made at various stages of the consultation on the proposal and the modifications made to the proposal in response to these comments. Chapter 9 deals with particular conflicts that have arisen in the Pentland Hills. In conclusion, Chapter 10 contains an evaluation of the study and some suggestions for future research that could improve understanding of the nature and carrying capacity of recreation environments.

In summary, this thesis thus has three parts:

I. A discussion of concepts, review of theory,

and development of hypothesis.

II. A case study.

III. An evaluation.

1.4 SOURCES OF INFORMATION

Five main sources of information were used in this study:

(1) published material in books and journals, and plans, reports and parliamentary papers;

(2) unpublished material in files, correspondence, and committee proceedings;

(3) interviews with official sources and interested parties;

(4) detailed discussions with officials and individuals involved in the case study;

(5) field survey and interviews to determine land use in the study area.

Part I is based on a critical review and discussion of published and unpublished material, and on some interviews with officials. Some of the information acquired was confidential and could be used only to provide a background to the understanding of some issues. Other relevant information which would have increased the value of this study was not available from the appropriate official sources, notably the Countryside

Commission for Scotland. While some information was obtained from other sources, requirements of confidentiality and restrictions on the availability of information were not successfully overcome in every case. Reference is made to these restrictions at the appropriate points in the discussion. Part II is based on all five sources above but mainly on the second, fourth and fifth.

1.5 CLARIFICATION OF CONCEPTS AND TERMS

The word 'nature' is used throughout this study and it is necessary to specify the context to avoid confusion. As used for example in the title, referring to the nature of environment, the meaning is the essence or innate character of the subject. Every attempt is made to avoid the connotation of 'quality' and where 'nature' occurs uncapitalised its meaning is that above. Where the word is capitalised, 'Nature' refers to the external physical world as contrasted with man-made objects. The capital also reflects the very common personification of the non-human world which is important if attitudes are to be understood, e.g., the notion that Nature holds or embodies values apart from its usefulness in serving man's desires, either economic or aesthetic.

The use of the adjective 'natural' is more complex.

Three particular meanings are common in the literature of recreation and conservation. It is often used to describe an environment, habitat, etc., as not being (artificially) altered by the activities of man. That is not the meaning adopted in this study. Here the word 'pristine' has been used where the meaning is 'unchanged' or 'pure', and 'virgin' where the meaning is more specifically 'unused'.

The second common meaning of 'natural' applies either to a subject which has not been made by man, or to operating processes that are not the accidental or deliberate result of man's attempts to manipulate his environment. The former distinguishes, for example, between 'natural resources' and built facilities, and the latter refers to processes such as 'the natural selection of species'. The word 'wild' sometimes has similar meanings, referring to uncontrolled existence or events such as 'wild animals', 'wild rivers' and 'wild fires', even 'wild camping'. 'Wild' always has this meaning here, including in the term 'wilderness'. But the word is subjective, particularly in wilderness, and so adjectives such as 'pristine' are added where it is necessary to indicate that an objective criterion also applies.

The third common meaning of 'natural' indicates that the materials of which the subject is comprised

occur in Nature, though their form and arrangement may reflect man's activities. In this sense the rural landscape is substantially natural, whereas the urban landscape is not. This is the sense of 'natural' in expressions such as 'natural beauty'. No satisfactory alternative exists and where the word has this meaning it is specified that it refers to such an aesthetic assessment of landscape.

'Landscape' also has more than one meaning. In Britain it almost always refers to scenery. Elsewhere, particularly in North America, it implies a broad area of land and water which has characteristic relationships between its biotic communities and their physical habitat within a narrow macroclimatic range. [1] Several other terms, including 'environment' can also have this meaning. In order to restrict the meaning of 'landscape' to 'scenery', and to reduce the confusion surrounding 'environment', the term 'land system' has been used throughout for 'landscape' in the American sense. No single term is entirely satisfactory or without ambiguity, but this is close to the original meaning of land systems in Australia, where the term is used in the biophysical classification of land. Confusion between 'bio-physical' and 'ecological' classification can be resolved if the first is seen as classification based on biotic and physical attributes of land, without necessarily attempting to describe ecological processes, i.e., though the structure may be determined the

dynamics of the ecosystem are not.

The term 'environment' also has several meanings which can cause a great amount of confusion. As used here the word means the surroundings or external conditions in which a person or organism lives or a system 'exists'. It is not assumed that a system has any life: its existence is conferred upon it by the mind of man - a 'system' is simply a concept. Where it is necessary to distinguish particular aspects of environment a qualifying adjective is used, e.g., ecological, psychological, cultural or social. The major problem arises with expressions in common use such as 'quality of environment' which express concern about the content of environment (i.e., the environment is the subject of feelings of responsibility and/or anxiety).

An attempt is made in Chapter 2 to steer a course through the problem of whether, and to what degree, an environment is useful or stimulating, good or bad. It must be said however that the importance of environment for this study lies in the responses which are made to it and the effect those responses have on the environment. Here the primary considerations are the environment of the recreating individual and the environment of park planning systems. It should be noted that there are two streams of thought about 'environment' involved. In the first, environment is

regarded as the stuff of Nature and so a 'good' environment is one in which Nature is undisturbed and/or the activities of man are not seriously out of harmony with natural processes. In the second, environment is regarded as the relationship with surrounds and a good environment is one which does not threaten survival but rather permits healthy development. In the first the concern is mainly for the environment. In the second the concern is for the organism or system in its environment. The two meanings overlap. Clearly concern for the environment itself is an aspect of concern for the survival of man or of things of value to him, but the second perspective does not necessarily have the same degree of anxiety as does the first about the artificial manipulation of environment for man's purposes. This anxiety sometimes amounting to rejection, is a common attitude of environmentalists.

'Environmentalism' is a general term applied here to the idea that a fundamental change is necessary in the way man uses the earth such as would restore harmony between man and his environment. O'Riordan [2] observes that environmentalism thus "becomes a moral code of conduct, a set of mediating values" and continues that when this incorporates "the understanding of man's purpose on this earth, his obligations to all other living and inanimate things, and his proper code of conduct given a choice between conflicting, and equally

tempting courses of action", it is "a state of being", which transcends the "desire to protect ecosystems or conserve resources." That desire is the first concern of the conservation movement and, though there is no clear boundary between the values of conservationists and environmentalists, an attempt is made throughout this study to equate the first with 'saving' and the second with 'redeeming'. The relevant arguments are contained in Chapter 2.

At the root of the 'environmental problem' lies the idea of 'progress'. The belief that material improvement of human well-being based on economic improvement is the proper course of human society is not restricted to the past two centuries, but in that time material progress has come to be a reality to which most men might aspire. Increasingly, and mainly in nations where such progress has been greatest, has come the realisation that progress is not made without costs and the more alarmist reaction has been that the course must at least in some respects be reversed, that "the sheer weight of physical and material impacts (which) has caused us, almost subconsciously... to assess human progress in terms of comfort and gadgets" [3] is the key to all our troubles. Much of the discontent with the idea, not limited to the past decade but to be found also in the writings of Arnold Toynbee and Otto Spengler and, for that matter, Malthus, is that social progress has not

matched material progress and the civilisation which is based on it is in decline.

A different view seems to be held by futurist writers such as Emery and Trist [4] in that there is a transition from 'industrial' to 'post-industrial' society which is not necessarily a decline of civilisation. Rather they suggest "the absence of a culture congruent with the needs of post industrial society" and examine how an appropriate culture may develop. In the past decade or two there has been a growth in alarm at the rate of change not only in physical but also in social environment, a rate not matched by individual and particularly not by societal ability to adapt to the new features of the environment. This concern is vividly expressed in writings such as Toffler's "Future Shock". [5] This "crisis of adaptability" has two points of relevance to this thesis. The first rests on the often-voiced contention that it is essential to the well-being of man that there be places where he can experience natural and preferably pristine environments, not only to be free from the stresses of modern life, but also for the recreative benefit of the experience of Nature. The second rests on the contention that social mechanisms, particularly those related to the ordering of society, cannot maintain or have already lost control of the processes of change. The latter particularly concerns the systems of planning by

which man attempts to regulate the distribution and use of resources and the impact of his activities on his environment. The environmentalist concern is strengthened by the view that Nature is unable to adapt at a sufficiently rapid rate to the changes imposed by man and therefore, some areas must be protected from these forces, at least until we have learnt to control their effect. Adaptability and stress are central to the discussion in Chapters 2 to 6.

'Adaptability' is the inherent capability for making response to changing conditions in the environment. Since subsequent discussion is directed towards the environmental planning system, and the particular attempts of one part of it to develop a park system, it seems appropriate at this point to emphasise that the adaptability of an administrative system is a function of its capacities to perceive and to process information, i.e., to learn. [6, 7] It is essential that there should be an ability to perceive at an early stage, if not in advance, changes occurring in the environment which are likely to cause stress in the system. A stress situation is one to which the system must respond by adapting itself or forcing an environmental adaptation. Such adaptations may or may not be successful.

One of the most common stress situations is

competition for use of resources. Increasing reliance is placed upon scientific research and/or the development of technical and technological capacity to meet challenge from competing land uses. This is particularly the case in competition over the allocation of natural resources or space, where policy decisions are increasingly based on analysis of the results of research. The procedure for environmental impact statements is a good example. The dangers inherent in this are an overload of information, and the manipulation of information to suit the aims of organisations. In regard to overload it is certain that, no matter what action man (either individually or socially) undertakes, it will have some effect on his environment, i.e., it will result in change in some attributes of the environment and so, because all life is interdependent, in some aspects of his own existence and of the existence of all life forms which share that environment. But there is a strong current of resistence to environmental change so that, as the knowledge of likely effects increases, there is inevitably disquiet.

There are several parallel issues, most notably the ecological concepts of stability and diversity, and these have a profound influence on the goals of recreation and conservation planning systems, not least because these two uses of the land so often are required to be complementary, or at least cooperative, when in many

cases they are incompatible. However, it is argued here that much of this incompatibility is not fundamental, i.e., that the competition between recreation and conservation is exacerbated by other causes, the most important of which is the failure to achieve adequate diversity through the planning system. One obvious error has been an eager acceptance of multiple use as the best use of land at the expense of attempts to integrate a number of specialised land uses over a wider area.

Multiple land use rests on the principle that several simultaneous purposes can be served by the one piece of land without adverse effect on the primary purpose for which that land is allocated. While this is not, of itself unsound, it is essential that a balance be achieved in the amount of land on which each purpose is given primary importance. What happens in fact is that forestry or agriculture is generally regarded as primary, and other uses such as recreation, wildlife conservation and water management, are regarded (in some of their representations) as compatible secondary uses. There are few examples where recreation is regarded as the primary purpose and other land uses as, within certain limitations, compatible. In addition, the concept of multiple use is weighted against other land uses which make a high demand for exclusive tenure, a characteristic of a large number of recreational activities, just as it is of many farming

practices. The English National Parks are a good example. Fundamentally, both recreation and conservation - whether biological or aesthetic - are required to fit in with the farming system. Despite isolated examples to the contrary, the general tendency is for agricultural improvements to be supported despite conflict with landscape conservation values. The Parks are not regarded as recreation areas in which farming and conservation are compatible uses, nor as conservation areas in which recreation and farming are compatible uses, but basically as farming areas in which the high quality of scenery and potential for some recreation activities (mainly of an informal nature) can or might attract such large numbers of visitors that control is necessary over their behaviour and impact on land in the Park, and obtrusive change in the landscape through farming or other activities is to be resisted. The support for the farming industry is mainly through grants which have a fundamental social purpose, i.e., to maintain the economic viability of upland agriculture and so prevent further rural depopulation. Additional justification comes from a perceived need for maximum self-sufficiency in food production. Were recreation regarded as the prime purpose of some areas, alternative financial arrangements might be sought which would preserve the desired farming landscape, and reduce recreational conflict while increasing recreational opportunity, yet continue to ensure an adequate standard of living for the

local community. The present priorities do not permit the allocation of public funds according to these criteria.

It is argued that the concern with multiple use has diverted attention from the integration of specialised function, and that this represents a misunderstanding of ecological concepts. In ecological terms, diversity is a measure of the richness and variety of species in the ecosystem. Higher diversity means longer food chains and is considered to be favourable for stability of the system because fluctuation in the proportion of one species is not so likely to cause collapse of the whole system. Ashby's [8] law of requisite variety suggests that a system formed by more elements with greater diversity is less subject to extreme fluctuations. The most important point is that amongst the many species present there will be overlaps - to various degrees - in their respective abilities to utilize certain environmental conditions. A change in these conditions, provided it was not too severe, would affect some, but not all, species and others would expand or contract in response. A stable system is one which is able to respond quickly to small variations in the environment. Clearly this is an ideal situation for a park system. (Explanation of the terms 'park' and 'park system' is deferred to Chapter 4).

It is difficult to find adequate illustrations by

which to clarify the above point. Recreation and conservation are uses of the land which require many different types of resource if they are to function successfully. The same is true of agriculture. Perhaps the best analogy may be the various functions of the human body. The mouth, for example, is part of the body's subsystems for several purposes, particularly breathing, eating and communicating, but it is not the sole part for any of these functions. Other parts, for example the nose and lungs, are required for breathing, but these parts also have several functions. Similarly, for good eating the mouth is dependent on its constituent parts, notably the teeth, and for speaking on the tongue. Several points can be made. Eating may occur, and the body survive, without teeth, but speaking may not take place without the tongue. Some parts of the system therefore are essential for the purpose of the subsystem while others add to its value without being necessary. But though the tongue is necessary for speech, speech is not the only way in which the mouth is used for communication. These other ways have value both in themselves and as additions to speech. Without speech the communication sub-system is poorer but still functional, and other parts of the body may be employed as reasonable substitutes, e.g., the hands for sign language. Here though, the message is limited by the number of other people who can understand it, and is intrinsically inferior.

In a similar fashion a park system may use land that also has other functions but it will not be complete, will not serve the population it should serve and will not provide the desired quality of experience to its users, if it does not have its more specialised parts. While these parts may be suitable for other purposes, their simultaneous use may not be possible or, if possible, may not be desirable. For example, talking while eating is regarded with disfavour in polite western society, but the disfavour is directed only at the simultaneous use of the mouth for eating and speaking. Juxtaposition of the activities is highly desired - the meal table provides the setting for the richest communication in many cultures - a fact recognised by many religions, and by Christianity in particular. Like all analogies this one has its weaknesses but the point of it is that, under the right conditions, multiple function is desirable, but this does not mean that such functions can be simultaneously practised. The analogy of the mouth breaks down on the point of reserved use, because it is necessary to emphasise that some functions may require exclusive use of some parts of a system for their ideal practice. Here it is probably better to turn back to ecological concepts, particularly that of the niche.

'Niche' is a term related to the specialisation of a species population within a community. It is the part

of the community - or ecosystem - which best matches the requirements of a species. A community with high diversity will have many species and many niches. The ecological principle is that the requirements of the species may overlap but they cannot coincide. Gause's principle of competitive exclusion states that only one distinct species population can simultaneously occupy one distinct niche.[9] If two species compete for the niche, one will be repelled, and unless it can find another vacant niche, or compete better in another place, will become extinct. One ecological fact which operates against extinction is that a species may occur in different habitats throughout its range. Some reservations are held about absolute application of Gause's principle to competing land uses because so often the direct competition is for the space rather than for its resources sensu stricto. This has some bearing on carrying capacity because some uses are more sensitive to change in the environment than are others, and because the same behaviour can have different effects in different places.

The niche analogy is relevant because some recreational activities have the same characteristic ability to occur in different habitats throughout their range. This is most highly significant where opinions of landscape are concerned, e.g., the common British attribution of monotony to extensive forests and

admiration for moorland, an opinion which the author, for one, holds in the reverse. (Except where it occurs in a quotation from another author, a distinction is drawn between the meanings of 'attitude' and other similar words. An attitude is a propensity to behave in a certain manner, and so is not synonymous with 'belief' or 'feeling'. Likewise the word 'opinion' is limited in meaning to 'judgement' or 'point of view').

It seems desirable to emphasise at this early point that the perspective taken in this thesis is not that of a native of Great Britain. While very few detailed comparisons are drawn between the development of opinions and feelings about environment and parks in Australia and Great Britain, some important distinctions exist and are noted. The Australian experience in many ways is more similar to the North American and as the latter is better documented, some of its examples are used in arguments. Because the author has no living familiarity with the values of the people of Great Britain beyond that gained in the course of this study, some of the judgements made may reflect on decision-making processes which it has been beyond the scope of this study to investigate in detail. Nevertheless the study seems to the author to be justified on several grounds, not the least of which are, first, that Australia is a land still dominantly British in the origin of its people and, second, that while the

Australian environmental planning system is less highly developed than in Great Britain, British influence in Australian planning schools and departments is so great that many important aspects of the system can be expected to develop along British lines.

If we now return to the definition of a niche as the position within a community for which the population of a species is specialised, this may seem to imply that ideal conditions for that species occur in that niche. It is unlikely that any species ever finds in any environment all the conditions most suitable for its growth and development. Some change in environmental conditions over time is to be expected, even if the change results from the living processes of the species itself. It should not be assumed that any park or any other provision ever would provide ideal conditions for either recreation or conservation. There always will be some change occurring in the recreation environment or in the thing being conserved, and it seems inevitable that there will be some competition for use of the resources of that environment simply because of the overlapping demands of recreation, conservation and other uses. Since competition is inevitable, there may be some advantage in the choice of specialisations which avoid direct competition or competition above a certain threshold. This is getting very close to the concept of carrying capacity. The questions which must be asked

are why a certain amount of competition is apparently tolerable and why that amount varies from place to place between the same competing uses?

It is suggested that the elimination implied by Gause's principle is only fully applicable to an ideal niche. In fact, what happens is suppression of one of the competitors, as Gause himself found in his study of two species of Paramecium. [10] The population of one species in a mixed culture rose and that of the other fell, but the first did not reach the level it maintained in pure culture nor was the second eliminated. In the same way recreation, particularly in the English-style National Parks, must suppress the full realisation of agricultural potential, and vice versa. Similarly, ideal conditions for recreation will not be found even in the absence of agriculture or other economic uses, because of the competition between recreation uses, particularly where conservation values are involved.

It is intended that this argument should lead into the concept of zoning, which is a method used in park planning, as elsewhere, in an attempt to 'create' a niche for a purpose which, without such intervention, would be seriously suppressed by competition from other demands on the land. But the experience of recreation planning has been that national parks (in particular) were established as just such zones, albeit large, on the

assumption that the competitive ability of recreation and conservation would be enhanced within them, compared to without. In some at least of the English national parks this is debatable, but even in parks adhering more closely to the definition adopted by the International Union for the Conservation of Nature (I.U.C.N.), there has been competition for space which has led to the adoption of further internal zoning as a tool for the management of competition.

The effects of this should not be ignored, for to exclude some activities from a zone, or to reduce their abundance therein, will generally mean one of two things. Either the activity will be suppressed or eliminated and the genuine demand for it diverted into other activities or non-activity, both of which could create further disturbances in the environment, with long-term effect on the achievement of the goal for which the zone was established; or the activity will begin to compete, perhaps more strongly, in another place, with a possible repetition of the problem. It is salutary to consider how this has operated when fast-growing activities have sought the use of resources or space that were previously the fairly secure niche of other activities.

Gause's principle indicates that if resources (or space) are limited, growth in the population using them is slowed by competition. Applied to recreation, this

suggests that growth is progressively slowed the more closely the amount of recreation approaches the maximum the environment can support. This is another way of saying that the growth in the number of units of use slows down the more the number of individuals approaches the carrying capacity of the resource. There are two possible situations, the first an 'empty' space into which an activity is introduced in the absence of competition either from economic land use or from other forms of recreation; and the second where two or more uses compete for limited resources.

Gause's experiments determined the rate of growth of a Paramecium species in the absence of competition. Given a large enough supply of culture medium, he could have determined the intrinsic rate of increase in the absence of limitations on growth. This sort of prediction of potential growth rate often has been made for recreational activities, usually by the extrapolation of trends and prediction of the rate of change of socio-economic aggregates. Theoretically if this rate (r) can be determined, and some estimate of carrying capacity made, the rate of growth in the number of individual recreational visits to a park or site could be predicted from the equation: $\frac{d N}{d t} = r \times N \left[\frac{D - N}{D}\right]$

where N = the population at a given time

and D = the carrying capacity as estimated.

In this simple situation, if the measured actual rate of

growth in the number of individual recreation visits was greater than the calculated rate, the carrying capacity as estimated would clearly be exceeded unless either some action was taken to reduce the rate, or the estimate of carrying capacity was increased. This would seem to be a simple tool for detecting incipient problems if only this type of situation prevailed. Unfortunately, it is the second situation that prevails in almost every case, i.e., there is competition between a number of uses, each of which has its own intrinsic and actual growth rates, and its own set of ideal conditions which determines the carrying capacity for that use. Because this is a complicated extension of this equation, its discussion is deferred to Chapter 6. The simple case has been presented here because it involves the consideration of goals, values and ideal conditions which require definition before proceeding to the next two chapters.

1.6 ENVIRONMENTAL GOALS IN RECREATION PLANNING

The advantage of using ecological and system concepts is that they contribute to an appreciation of the recreation planning process, a process of control of progress towards goals. It is necessary in this connection to distinguish between values and goals. Goals are positions that a decision-making system attempts to reach. Values motivate action and guide behaviour and may determine what goals are chosen.

They also may determine whether an activity has a positive or negative potential, i.e., whether it is an acceptable way to reach the goal or not. Valued ends are not goals but rather are ideals, not subject to the staged (objective) progress by which goals may be approached. Nevertheless, values have a marked effect on the assessment of the progress being made towards goals, and one radical way in which this may be seen is that it is increasingly being accepted (in the face of opposition) that the cost to the community of the improvement of amenity is not just a consequence of economic development but a condition for its continuance. In these terms expenditure on amenity gives individual, community, and economic benefits. This may be seen in the level of consideration given to both living conditions and working conditions in New Towns. Cost - benefit studies of development projects are another area in which more attention is being given to positive benefit to amenity and it is here that the whole argument about 'hard' and 'soft' values becomes most intense. The amount of progress made with the concept is highly variable, and a growing impatience can be detected. It is suggested that the idea that public squalor should not accompany private affluence [11] is now a generally accepted value, but the principle that the prime role of development is to create conditions of private and public amenity which are the foundation of continued growth is still to gain wide acceptance. This principle seems to have more weight in some countries than in others:

compare, for example, the attitude that mineral extraction should not reduce amenity which gave rise to the Peak Park Planning Board's presumption against new or extended mineral operations (a presumption that has been rejected by the central government), with the land consolidation programme in the Netherlands which, in the course of "providing benefit to agriculture in its widest sense", integrated landscape treatment and nature preservation and the lay-out and extension of recreation facilities to improve the "living climate". "The provision of recreational amenities, such as footpaths, cycle tracks, lay-bys, picnic places, swimming facilities and river bank amenities, now ranks equally with other needs for which land consolidation projects have to provide" [12] (emphasis added).

The planning system therefore directs the progress of development towards higher standards of amenity. The fundamental concern is land use in conditions of scarcity of resources and unevenly-distributed demand, the proportions of which are not well understood. Terms such as 'latent demand' are used to indicate that potential participation exceeds actual consumption of recreation opportunities, a suggestion that raises alarm because overuse is perceived at the present level of consumption. The planning system must then operate in a situation in which a further dimension of concern has been added to its previous responsibilities. In the past, concern has centred on the need to make provision

for recreation participation and on the relationship between the resources so provided and the amount of participation. A secondary concern was with the changing patterns of participation and an understanding of the factors which promoted such changes. While a third concern was always present to some degree, it now assumes a major role. This is the relationship between participation and the satisfaction to be obtained from it.

The following chapters of this thesis consider in more detail some of the needs and values which underlie this relationship between participation and satisfaction. This concern and the two others identified (the provision of facilities and conservation of resources, and the identification of changing patterns of demand) may be contained in a general goal statement such as

> "the provision, development and improvement of facilities for the enjoyment of the countryside, and for the conservation and enhancement of the natural beauty and amenity thereof."

(This is recognisable as the stated function of the British Countryside Commissions). The important point is that such a goal must be seen in the context of economic, social and environmental goals at national, regional, local and individual levels of concern. Progress towards a goal therefore must be achieved within this complex planning environment. Since here the subject is carrying capacity, this implies that

management of recreation in accordance with that concept will depend on how well recreation goals are able to compete with other goals.

The goals of recreation authorities are often rather intangible. 'Improved amenity' and 'a better life for our people' are general goals which require much more specific objectives for planning action. In fact it is fair to say that those quoted are not really goals, but rather means to some even more abstract goal such as 'community development'. While it is true that intangible goals permit flexibility, there are pitfalls which are particularly dangerous to the values of the organisation framing the goals. Clark [13] has suggested that "values become precarious when they do not provide the cues for the behaviour needed to act upon them." While intangible goals may allow an organisation to become a 'cause' or 'movement', its support may wane because of inability to attain its goals or to relate its achievements to its aspirations. Goals may then be displaced so that the means of attaining the goals becomes an end in itself, i.e., the organisation directs much of its energy to building or maintaining itself. Two types of compromise of values may occur.

In the first case the need to ensure the survival of the organisation may involve agreement with competing organisations. The eventual decision, and action taken,

may be the lowest common denominator. This 'satisficing' behaviour is discussed by Lindblom [14] and March and Simon [15] who suggest that the measure of a good decision is that the decision-makers agree about it.

In the second case values may be reduced to match tasks the organisation can achieve and so enhance its chances for survival. For example, an organisation which has as its goal 'recreation for all' may be diverted to become one which manages parks because park management is something which it can achieve. In doing so it may survive, though its real goal becomes less distinct. Warner and Havens [16] consider an example of this happening may be seen in reports where it is not the progress towards intangible goals that is reported.

> "Instead of community development, or the development of human resources, it is attendance, growth in membership size, number of projects, adherence to rules, and the like that are reported."

Recreation planning systems in Great Britain, have developed under similar pressures on their values and goals.

The environmental debate exposes the philosophical basis for many of the goals and values of both individuals and organisations. In the next chapter some aspects of this debate are reviewed in order to illustrate

environmental values, and the formulation of recreation and conservation goals related to them. In the following chapter the concept of 'basic human needs' is discussed so as to enable consideration of the relationship of values and goals of recreation planning to such needs. Subsequent chapters examine the course of some British attempts at progress towards goals, so demonstrating the effect of competition and conflict on goal achievement.

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CHAPTER 2 RECREATION AND ENVIRONMENTAL CONCEPTS

2.1 INTRODUCTION

After about a hundred years of comparatively steady development, concern for the conservation of Nature underwent an explosive growth in the 1960s. Since then it has remained a major concern in the industrialised nations and has had some impact on the course of development in others. The literature on the subject is immense and to review even the most important contributions would be an impossible task. Much of the discussion of issues originally proposed for inclusion in this thesis appeared in print during the course of the study in the book "Environmentalism" (O'Riordan, 1976 [1]). Several references are therefore made to that account and this discussion concentrates less on 'environmentalism' in general than on its particular importance to recreation and park systems. A somewhat stronger emphasis is made herein on the religious nature of the conservation movement and its expanded expression in environmentalism.

This is not to say that the conservation of nature was either uniformly or overwhelmingly presented as a religious duty. In fact, except in the writings which discuss the role of Judeo-Christian view of the world, (or the 'protestant ethic') as a fundamental cause of an exploitative attitude to natural resources, very little

use has been made of explicit religious terms.[2] Most often where 'duty' has been the subject it has been presented as a rule of prudence, as 'care for Nature' important for the well-being and survival of mankind. Another strand of the argument concerns 'rights' of Nature independent of any value to man and reference is made to this later.

In regard to 'care for Nature', studies in natural ecology and related fields have shown that exploitation and what is often labelled 'abuse' of Nature can have consequences far more serious, immediate, and pervasive than were ever foreseen, particularly where the 'balance of Nature' is upset. It is the common view that Nature is a finely-balanced system easily disturbed by the immense and rapidly increasing technological capacity of man. This capacity is so great that the natural adaptive and evolutionary processes which previously prevailed are no longer able to restore balance, or to ensure that change is not catastrophic. Prudence therefore dictates a respect for Nature as a whole and in all its particulars. Near its full development this view holds that the preservation of species and habitats of no <u>apparent</u> value to man may yet be necessary in the long term to his welfare and survival. The consideration of human welfare has come to have particular importance as Nature-oriented recreation has gained in popular appeal and the concept of National Parks has developed and spread.

Sometimes, however, the conservation movement has reflected concerns not related to human welfare and survival, as though the preservation of some species or habitat is an end in itself. This has been most pronounced where the object of concern is near to extinction. Value to man is secondary in the sense that if it is necessary for man to be excluded from an area in order to ensure its survival or the survival of some constituent species or feature, then excluded he should be. This concern has 'spilled-over' into two forms of interest in wilderness: one asserting that areas should be preserved in which there would be no sign of the works or presence of man; the other asserting the necessity to exclude man from some areas so as to ensure the survival of component species. In the first it is the wilderness itself that is valued, in the second it is its content.

2.2 ENVIRONMENTAL CONTRAST OF WILDERNESS AND CITY

Yi-Fu Tuan [3] has observed that throughout history there has been a general antipathy to wilderness. He notes that the idea that man must improve on the works of Nature produced a trend towards "order and structure of mounting intricacy" as the garden replaced the wilderness and the city replaced the garden. According to Tuan, the city-countryside dichotomy can be traced through literature and folklore at least as far as the Epic of Gilgamesh some 3500 years past. It has been

supposed that artistic sensitivity is cultivated in the city, and that it is to the city that "we owe our aesthetic appreciation of nature". This author fully agrees that the modern concept of wilderness as epitomising rather than as lacking virtue, is an urban concept. Tuan suggests that much of this reversal of view was due to the declining aura of the city under the "self-propelling force of metropolis". However, life in cities for the majority of its inhabitants must have been rather mean in the past, just as it is for some in the present. The significance of the city surely was that the organisation it provided enabled the development of an educated elite with the opportunity to cultivate aesthetic sensibility - Veblen's "leisure class" [4] . Tuan observes that the aristocratic rebound from the city finally led not to the farmstead but beyond it to Nature, which was viewed in two ways : aesthetically as the setting for a country villa, a quiet place for study and exalted philosophising; and morally "as the stage for the development of independence and manly virtues" [5] . It is here suggested that these are values still ascribed to Nature, and in particular to wilderness, by those who approach it from the standpoint of human needs for 'personal knowledge' and 'self-actualisation'. Such needs and their related values are discussed in the next chapter, but the amount of attention which should be paid to them is not unquestioned. Tuan expressed the view that -

> "in the west a rather low level of aesthetic appreciation, one which simply treats nature as the scenery and background for recreational activities, has permeated down to the middle class as its members gained affluence : the ironic result is that nature is threatened by the clumsy embrace of its proliferating admirers" [6] .

Such a view lies behind the common contention that action is necessary in order to protect the natural environment. In a later book Tuan referred to opposition to preoccupation with attitudes because, at a time when "threatened environments demand action ... questions of attitude and value seem beside the point" [7] .

This suggestion seems rather dangerous. It was a similar concentration on one goal - the exploitation of resources to improve the material standard of living - that, by ignoring other needs, led to many of the present critical environmental problems. To disregard other human ambitions in an attempt to protect natural environment, though it might save some areas from further despoilation, would hardly seem to attack the cause of the problem, i.e., it might provide a localised 'cure' while doing little about the "low level aesthetic appreciation" which made a cure necessary.

Dubos has made a similar point in discussing environmental health. In the early 19th Century

> "public-minded citizens came to believe that,

> since disease always accompanied want, dirt, and pollution, health could be restored only by bringing back to the multitudes pure air, pure water, pure food, and pleasant surroundings" [8].

This led to positive improvements in the living conditions of (Western) man in general. Dubos observed that this conviction that high rates of disease and death could be corrected by cleansing of the environment was overtaken by laboratory science so that:

> "disinfection, vaccination, vitamins, drugs and diagnostic laboratories became the new themes of the health slogans" [9].

The overall result has been that attention is now focussed on the cure of diseases rather than their prevention. Dubos considers that this reflects inconsistencies in value systems because

> ".. now as in the past the only real solution to any disease problem is prevention rather than cure, and ... prevention demands both concerted social effort and personal discipline" [10].

Though infectious and nutritional diseases were controlled by environmental cleansing, these have been replaced by "chronic diseases of degenerative, metabolic, or neoplastic nature" to a large extent the consequence of changes in the ways of life and in the environment. He laments the lack of public and professional support for an attack on these causes:

> ".. the question is to decide whether

> health or economic growth should have priority in determining the type of environment in which we live ..... if the public were really concerned it could compel the various industries to eliminate many types of environmental pollutants, and to investigate more thoroughly ... the potential health dangers of technological innovations" [11] .

In this light it is impossible to agree with Tuan that "attitudes and values seem beside the point" (see above). They are clearly important in determining the course of change in environment.

Dubos' thesis is that health depends on how well man adapts to his environment. Saarinen [12] has noted that as early as 1928 MacKaye identified three environments as being essential to human well-being. These were the urban, the rural, and primeval nature. His study emphasised the need for clearly establishing a set of goals based on human needs which could then be used as a guideline for planning decisions. Goals, let it be said, are the prime responsibility of the decision-maker, to be determined by a political process. The 'guidelines for planning decisions' they promote are best seen as objectives. These are the responsibility of planners. To treat one set of needs in isolation from, or even as of greater importance than, other valid human needs, is practically certain to be counter-productive. Any environmentalist preoccupation with wilderness alone should be eschewed. It may prove

technically more simple to subdivide the problem, but to concentrate on one part and ignore its relation to the whole must eventually lead to failure to meet the valid recreational needs of the population and therefore have repercussions in the political sphere of decision-making. It is suggested that the "clumsy embrace" referred to by Tuan is such a repercussion due to planners' false assumption that recreation demand can be simply explained in terms of environmental needs. In fact the wider adoption of environmental values accounts for some of the changes in recreation demand [13].

The assumption that there is such a direct relationship between physical environment and behaviour that to be in a better environment will effect an improvement in behaviour, is disputed in this thesis. At its extreme this suggests that someone from a 'bad' urban environment placed in a 'good' wilderness environment could be expected to behave in an ecologically responsible manner. Faith in this idea persists despite the problems of protecting national parks. It is suggested that it does persist because, in accepting an idea such as MacKaye's that experience of a number of environments is essential to well being, it has been assumed that the quality of one is not related to the quality of the others. In fact the value of one environment often is defined by contrast with another. Environmental problems in the city are not

seen to be the same as environmental problems in the wilderness because city and wilderness are considered antipathetic.

Tuan [14] traces the development of perceptual antipathy between city and countryside through six main stages

(1) The Edenic Ideal (which reappeared in the 19th Century in particular) of the sacred garden in the profane wilderness.

(2) The Urban Revolution and Cosmic Ideal of the sacred city with a farm and village buffer in the profane wilderness.

(3) Juxtaposed Ideals of cosmic city against edenic nature, between which one moved as necessary.

(4) The "Jeffersonian" Ideal of a middle landscape of profane city in edenic ruralia set within a profane wilderness. The boundaries were mobile.

(5) Late 19th Century Values of profane and amorphous city in edenic and increasingly ordered middle landscape set in an edenic creative wilderness.

(6) Mid and Late 20th Century Values of sprawling urban and suburban wilderness in a threatened edenic wilderness, in which edenic new towns should be established.

While it is possible to criticise this as an over-simplification, and to assert that the various stages, particularly the latter ones, all still exist to some extent, it does show the reversal in the view of the city and wilderness. There have been numerous attempts to trace the development of these views, mainly through the writings of poets, wilderness travellers and leading conservationists. Good accounts are to be found in two volumes, one written and the other edited, by Nash [15, 16]. Detailed consideration of them, and the great number of complementary works is not possible within the limitations of this thesis. The above summary from Tuan is included to highlight the trend in Nature-oriented values, because of its importance to decisions which will affect not only the structure of park systems but also their stability in the long term. The fifth and sixth stages coincide with the growth of the conservation ethic.

This account now turns to the idea that Nature has 'rights', as a prelude to discussing the distinction between the environmentalist and conservationist ideas.

2.3 THE RIGHTS OF NATURE

There is an increasing reluctance to accept the proposition that man is the superior form of life on earth and so has an unabridged right to mould Nature and use natural resources for his own purposes. The

contrary view is that man is himself a part of Nature and that his power must be exercised with responsibility, that he must control his ability to 'spoil' other parts of Nature. To 'spoil' in this context is to infringe on Nature's 'rights' [17, 18].

Problems can arise from the suggestion that Nature has a right to be preserved. What is often meant is that some particular attribute such as natural beauty should be protected from any change through the agency of man. The danger is that in doing so an attempt is made to invest a place with immortality. Apart from the difficulties of control that this would entail, it is not necessarily true that such a degree of preservation, whether it be for 'Nature's rights' or the benefit of future generations of man, is congruent with the natural order as a whole. There is an element in this of resistance to natural forces of change. Furthermore, it attributes the value of a natural area to its <u>state</u> rather than to the processes which create that state. This preoccupation with preservation of state may largely be due to the urgency with which the conservation problem is perceived. A rapid growth in concern with survival, stimulated by the literature of the late 1960s and early 1970s, has been a potent force in development of the perception of need to preserve inviolate areas.

It is common for the view that Nature has rights

to be extended to the suggestion that to steal or disregard those rights is to risk retribution because Nature never bends to a human purpose without charging a price. It may be more correct (and less melodramatic) to say that for every action which man takes to modify his environment there will be a reaction, and that the actor is often unaware of what that reaction will be and when and where it will take effect. In these terms the urgent task would seem to be to improve the ability to predict the reaction not in order to counteract it, i.e., to further adjust Nature's behaviour, but rather to modify the human action. The contention is that the survival of man may eventually depend on this ability [19].

Statements that the survival of mankind may - or indeed does - depend on preserving representative areas of natural ecosystems in a pristine state are numerous. Some even advocate active management programmes to return national parks and related areas to a primeval state and regime, in so far as that is possible [20]. The threat to survival is questioned by others, and there is some opposition in practice to the idea of reinstatement, particularly in places where there is less pristine land. The grounds for resistance are not simply economic, but also aesthetic. Despite suggestions by some of impending ecological cataclysm through man-induced changes, there can be overwhelming satisfaction with the result and strong opposition to any subsequent reversal or

modification of the land system [21].

Hart has commented on such differences in perspective within the conservation movement. He considers that much of the early philosophy developed in the "world (of) Theodore Roosevelt's Americans", a world made by Nature, unlike the present man-made world.

> "People who live in a world made for them by other people take a view of conservation different in two ways from that of fifty years ago. They make their own demands on nature; conservation is no longer merely saving, or even maximising in any one direction, what nature has to offer. The modern issue is seldom conservation versus exploitation; it is often prudent exploitation for one purpose against prudent exploitation for another" [22].

Hart's paper, written in 1958, and another by Hays [23] from the same volume showed a fairly early awareness of the way wider issues were to be added to the rather resource-specific considerations of the conservation movement. Hays referred to a change from optimism to pessimism, from possibilities to limits and from human betterment to human survival. What had previously seemed to be the unlimited horizons of technology now appeared as the compulsive use of technology in a race toward world suicide. While this author agrees that there is considerable pessimism amongst environmentalists, it is suggested that this is a necessary advance and that, far from replacing the conservation movement, environmentalism runs in parallel

and goes beyond it. The distinction between the two is the subject of the following section.

2.4 CONSERVATION AND ENVIRONMENTALISM

One feature which distinguishes the conservation movement from environmentalism is that the former is essentially negative or, at best, has only a small positive impact on the causes of environmental problems. The environmentalist viewpoint asserts that radical solutions are needed, and O'Riordan [24] notes that the publication "A Blueprint for Survival" [25] emerged as just such a "radical response to what was regarded as the wishy-washy, establishment-oriented and middle class views of the British Countryside amenity movement ...". The conservation movement concentrates on keeping examples and remnants substantially free from despoilation by man, setting them apart so as to eliminate the threat to them. Environmentalism concerns itself more with the source of the threat, with the forces which make conservation necessary and, at its best, with change in the conditions which generated those forces. Conservation therefore is most concerned with prevention of change, environmentalism with directing change along particular lines which, if widely adopted, would make much conservationist concern unnecessary.

The author's view is that conservation is an essentially rearguard action to 'save' valued

environments (or habitats, species, buildings etc.) while environmentalism is a progressive movement to 'redeem' the living environment. There is no clear boundary between 'saving' and 'redeeming', just as there is no clear boundary between the conservation movement and environmentalism. The main difference is that the former aims at salvation from the 'evil' works of man by setting places apart or affording them some protection against uncontrolled or unconsidered development, or from any development whatsoever, while the latter aims at salvation into a more wholesome total environment in which the 'evil ways' of man are transformed or indeed transfigured. Thus conservation is a rescue operation aimed at deliverance from evil by giving protection at its destination, while environmentalism is a restorative principle aimed at emancipation from evil by removing it at its origin. Perhaps the distinction may best be made by taking the religious parallel further and quoting Forsyth's remark [26] that "to deliver us from evil is not merely to take us out of hell, it is to take us into heaven". Conservation tends to deal with the environment by considering it to have had an original perfection, hence the saving of remnants is essential. Though this may do much to assuage guilt about mans' impact it is essentially divisive, heightening the contrast and so intensifying the conflict between Nature in the countryside and chaos in the cities. Environmentalism goes beyond conservation by considering future ideals.

It is more unitive because it suggests that the estrangement between man and Nature, city and countryside must be overcome, that the realisation of values lies in the environment as a whole.

The distinction is rather like the argument between Christ and the Pharisees and this comparison is chosen because the author considers regulatory conservation to fall short of the true needs of man in Nature just as the Pharisees fell short of understanding the true needs of man in God. The Pharisees emphasised the salvation of a minority, equating holiness with separation. Jesus not only spoke of salvation as open to the outcast, but also emphasised that it was to bear its fruit in unification of all men. This was the message taken up by the Christian church so that the New Testament emphasis became the sanctification of the believer in and through the Church as a body, not by separation. Thus, just as one can only be saved in a saved society, so the environmentalist view in its full development emphasises universality. The conservationist looks for the individual salvation of the works of Nature, the remnants of natural environments or the most worthy of the works of man. On the other hand the environmentalist appears to recognise that this is inadequate, that salvation can only be accomplished with lasting effect in a world in which man and nature are in harmony throughout. Conservation is a type of

Old Testament messianic dream, a dream to save the best and keep it sacred in the midst of the profane. Those who retreat from the profane will be purified and restored by their contact with the virtuous environment and this will enable them to survive for a further period in the profane environment. This is expressed in the recuperative theory of leisure to which reference is made in Chapter 3. This theory posits a compensatory need to retreat from the world for what amounts to a sacramental act of recreation in the hallowed countryside. The parallel to this view would be to consider that the Christian church consists of its Sunday congregations and their rituals. Such a view renders the Church ineffective in the work that appears to have been the purpose of its founder - the working out of salvation in and for the world as a whole. Similarly it results in park planning which elevates the personal and downgrades social experiences, and supports an attitude that aesthetic quality is unimportant and/or impossible in 'user-oriented' parks.

This religious analogy has been used for two reasons. Firstly, the Church is often severely criticised for having provided the foundation of environmental irresponsibility (see, e.g., White,[27] Barbour,[28] Passmore[29]); and secondly, reference is made in several places in this thesis to the religious character of the conservation ethic. The author considers that both indicate a fundamental misunderstanding of corporate

responsibilities due to overemphasis of individual roles in both creating and transforming environmental problems.

To illustrate this point, it is obvious that the exploitation, pollution, misery and social degradation which accompanied the industrial revolution and which are so much in contrast with the new horizons it promised, were not the result of any intention of the individuals who led its development, but rather the total effect of all men's cupidity. The problem now is recognised but it is obvious (for example) that, although no one actively supports pollution, the crisis of pollution deepens due to the undercutting of remedial policies by other legitimate interests. Accomplishment in terms such as Schumacher's [30] criteria of smallness, simplicity, capital saving and non-violence will need a perspective which transcends the individual without ignoring him. But it is suggested that the recreation and park planning of the present is essentially concerned with individual values and needs, discussed as autonomous needs in the following chapter. The author's reservation about this is that it is a concentration which runs the danger, already very much in evidence, of becoming self-righteous and inevitably counter-productive. Just as 'righteous' wars have historically proven more destructive and difficult to resolve than have wars of trade or expansionism which have a background which is more overtly cynical, so conservation based on moral worthiness can only accentuate the division between the

daily life and the good life (Chisholm [31]). In the chapters which follow this discussion is related to the movements for public access to the countryside and park systems, because parks provide a particular example of the way in which substance is given to conservationist and environmentalist idealism.

The environmentalist movement seems the better fitted to motivate behaviour directed at positive goals rather than the avoidance of bad results. It should be possible to suggest that conservationists take an anti-man world view without risking the accusation that one supports the 'technological fix' to environmental problems. Very few if any conservationists would seriously question the landscape gardening achievements of Repton and Jones, yet they now seem to deny man's ability to beautify the natural world, as though now only Nature has the capacity to make environments pleasing to the senses. This almost exclusive concern for natural beauty is counterproductive because it leads to the view that little improvement or advance on the aesthetics of the 19th Century is possible, and that the urban environment can never hold the quality necessary to man's fulfillment. The rural environment must always be 'better'. This view can lead to the "cult of the simple rustic life" which has been strongly criticised by Santmire [32] as "in the last analysis .. an inarticulate, mostly unconscious, unconstructive and therefore highly ineffective expression of discontent". He sees it as

essentially schizophrenic because there is, for most, no escape from the city and life becomes compartmentalised.

This author sees the greatest danger in the attendant view, already referred to, which suggests that if only we could place man in a better environment he would behave - or be - better. Meyerson notes that

> "Most of the creators of the physical utopias imply that men will be healthier, more orderly, more satisfied; more inspired by beauty - better in some way, if the physical environment is appropriately arranged ... If men are only placed within a proper setting (whether social or physical) they will behave as .. they should behave" [33].

There is a parallel assumption that in a bad environment behaviour will be bad. This seems to be a fundamental misunderstanding of human nature and its error is exposed in two simple ways. First, a major part of conflict over countryside recreation and therefore of the problem of carrying capacity is that the urban visitor does not behave in the countryside, be it supreme National Park or not, in the way that he "should behave". The second is that, taken to its logical conclusion, one could expect to find few if any 'good' people in the slums of Glasgow and few if any 'bad' people living in the Lake District National Park. This may be a perception which the Lake District residents would hold, but it is very unlikely to be subscribed to by

the Glaswegian. The truth is not that a better environment will lead to better people but that better people might lead to a better environment.

The question then is what is the importance of a better environment? The answer would seem to lie in the ecological concept of adaptation. Adaptability is critical as a characteristic which distinguishes man from other forms of life, because of his ability for social, technological and communicative adaptation beyond the physiological adaptability which dominates other species. Dubos [34] has noted, however, that "disease ensues whenever man fails, as he usually does, in making rapidly enough a perfect adaptive response to the new environment in which he elects to live and function". Further reference is made to this point throughout the thesis, but here the reference is to failure to adapt to the stress of modern life in urban areas. Many respond to this stress by seeking temporary escape to the countryside. Parks become most important as a place to which to escape when they provide a sense of comparative freedom in an apparently natural setting.

2.5 THE RETREAT TO NATURE

The 'escape from the city' concept of parks makes recreation a 'band-aid' over wider problems of environmental anxiety. It nevertheless is valuable, so long as its buffering role is not taken to be the full

purpose. As a buffer parks could be said to enhance adaptive capacity by permitting a change in orientation towards 'information', i.e., allowing for an escape from stressful information overload in the city. It should be noted that this is in contrast with the view that the city provides inadequate stimulus and 'conversation' with nature is necessary on that account. Both views should be seen in the light of the suggestion that full human development requires the stimulus of experience in three classes of environment of which the city is one and rural and wilderness areas the others [35]. Thus it is possible to recognise both the progressive and developmental value of human society and the restorative powers implicit in Nature. It is here suggested that park systems should incorporate opportunities for both types of experience in a variety of physical environments. This is based on a fundamental reservation about the emphasis laid on the compensatory theory of recreational encounters, namely that if one retreats to the wilderness to escape from the turbulent social world of the city, to return is to be defeated. The issue becomes how the benefit of the encounter with Nature, some form of renewed sense of possibilities, or a relaxed body, soul and spirit, can be carried back into the normal life.

National parks can so easily become like insulin treatment for urban diabetes. If parks enable those who are involved in making decisions about the urban environment to live with the disease, they are not likely

to easily understand the needs and problems of those who are not so enabled. Nor will they be able to comprehend the inability of the other to make 'best' use of opportunities when and if they do become available. This becomes a forceful argument in the hands of those who insist that the development of park systems must not be based on ecological priorities alone but also, and equally, on considerations of social justice. For example, in discussing the wider sphere of environmental quality, Farameli asserts that

> "ecology is a profoundly serious matter, yet most of the solutions suggested for environmental quality will have, directly or indirectly, adverse effects on the poor and lower income groups. Hence, economic or distributive justice must become an active component in all ecology debates" [36].

Considering that most of the images of environmental quality refer to improved lifestyles for suburban dwellers, with negligible emphasis on urban quality, he says

> "only those who have been reared in affluent suburbs can rebel against over consumption and the banality of materialism ... the one thing I don't look forward to is living in a pollution free, unjust and repressive society" [37].

While the severity of this criticism may not be warranted in relation to most park system planning, it is shown elsewhere in this study that predominant attention to suburbanite wants is hard to resist, and that the honeypot concept of country parks as safeguards for the

national parks is a prime example of dissonance between the values of different park user groups.

The following section refers to the dissonance between the public interest in parks and the values of park-related organisations, with particular reference to the conservation of parklands.

2.6 PUBLIC AND INSTITUTIONAL VALUES IN PARKS AND THEIR CONSERVATION

O'Riordan [38] observes that the American conservation movement was built around management by the existing power base and became increasingly dependent on a professional élite who operated on the basis of their own ethic and some disdain for those who were not of the fraternity. In his view professionalism is a sort of "tribal ideology" which can divorce professionals from genuine consideration of public interest, to the extent of fitting every phase of their analyses into preconceived value systems. The significance of this criticism is that ideology is an inadequate basis on which to approach the complexities of modern urbanised society, particularly its political complexities. The result, as suggested by Tuan's studies, is not only an inadequate response to problems of competition but one which, because it is not sufficiently sensitive to changing values, makes those problems more intractable [39]. In this way O'Riordan suggests, in relation to American conservation

administration, that:

> "what was regarded as the necessary regulation of monopoly 70 years ago has largely become the very costly and unnecessary regulation of competition today .. (and) .. the ironic outcome of the technocentric face of conservation has been the creation of a set of circumstances quite unacceptable to modern environmentalists" [40] .

One of the reasons for this problem is that it is difficult to determine what is the 'public interest'. There is no single definition. Blowers [41] suggests that it is defined in any particular case by the perceptions of the decision-makers, by local and national policy, and by the circumstances of the issue. Clearly where local or national policy is ill-defined the perceptions of the decision-makers and perhaps even more of the professionals who advise them and the organised interest groups who participate, are increasingly likely to obscure full realisation of the public interest and therefore of the full environmental effects of a decision. For this reason more radical environmentalists challenge the ability of the present political framework to achieve any real solution to environmental problems [42] . Some argue more specifically that many quality of life problems which are attributable in some ways to environmental deprivation (e.g., lack of access to 'good' environment, the creation of 'unhealthy' features in the environment, or failure to ameliorate such features) are

social costs related to class. In this view an institutional structure adapted to growth and development fails to match economic progress to personal rights for amenity. To suggestions that such rights can be improved within existing institutional structures by reallocation of benefits, particularly through distribution of facilities to deprived areas, the reallocation of wealth through discriminatory taxation, and legislation of legal rights to amenity (not only rights such as clean air and unpolluted water, but also, e.g., rights of access to the countryside) it is objected that these actions must be sanctioned by those who gain most benefit from the existing arrangements. As will be seen, difficulty in obtaining the necessary sanction has been the single most important determinant of the pattern of recreation provision in Britain, both in terms of access and, in Scotland in particular, of designated parks. The point to be emphasised at this stage is that it is not only those who support growth but also the organised conservation movement (who may philosophically oppose it) who have been instrumental.

An example of the above point may be seen in O'Riordan's observation, in a slightly different context, on the pressure on land lying within 25 to 50 miles (40 - 80 km.) of major metropolitan complexes. He notes that the pressure on these areas from those seeking improved amenity (in this case "the affluent middle class seeking cleaner air, peace and quiet, and

good schools and other urban services for lower taxes") is resented by those who often were the first to move there for those reasons. Having themselves achieved "private expropriation of environmental quality at a high price" they are now "often in the vanguard of the non-growth and guided growth movement ..."[43] . The writer has observed the same behaviour on the south coast of New South Wales where existing owners of second homes have promoted an association aimed at prevention of despoilation of the area by further development of second homes and tourism.

Another variation of the same trend occurs in amenity groups which, having begun their lives as movements with wide public support and membership from all 'classes' of society, come to be dominated by the values of one particular class, or by an executive whose values either do not express or do not adapt to changes in the values of the membership. Nicholson [44] in his account of the development of the conservation movement in Britain refers to this, noting that the eventual result may be a revolution by the membership. The implication for the wider public interest in amenity (urban, rural and wilderness oriented) seems quite clear from the quotation below. The author's opinion is that many groups, and particularly the Ramblers' Association must face similar pressure. This Association was at the forefront of the access movement in the 1930s and had wide 'working class' support for its attempts to obtain

public rights of access over wide areas. But in 1975, in its comments on the Park System for Scotland proposal, the Association did not once mention access, and emphasised the need to reduce the impact of recreation demand on countryside of the highest quality by support for country parks as areas to which people could be diverted. The tenor of the Association's submission was support for landscape conservation and not for improved opportunities for public access to the countryside [45]. Nicholson says:

> "Unfortunately the modernisation of the natural history movement which was carried through in the later fifties and early sixties has not yet been matched by an effective modernisation of the British outdoor recreation and amenity movements, which remain cast in a somewhat nostalgic and anachronistic mould, with certain notable exceptions. Whatever may be thought of the merits of the particular case the determined effort in 1966-7 to revolutionise the policy and to unseat the leaders of the National Trust was a warning (promptly heeded by the Trust) that a phase of general modernisation is now called for" [46].

A similar revolution shook the Australian conservation foundation at the turn of the decade, and the Sierra Club actually split, giving birth to the Friends of the Earth, for broadly similar reasons.

It was noted above that O'Riordan considered the professional elite of the conservation movement had developed a sort of "tribal ideology" which could divert

them from genuine consideration of the public interest. What followed reflects this author's view that tribalism extends to amenity and conservation groups, and particularly to those concerned with National Parks. On the whole, these groups pursue their own particular interest, which is not unreasonable, but the point to be made about tribalism is not just that it deters genuine consideration of the public interest but rather that it sets limits on the sense of obligation to other men [47]. From there it is a short step to insistence that the benefits of parks and the enjoyment of Nature they preserve rightfully belong only to those who subscribe to their ideology. This raises the question of the degree to which conservation interests support rights of Nature in parks independent of its value to themselves.

It can be argued that the assertion that a rare or endangered species or environment is important in its own right really reflects its defender's own interest in it, and thus its importance to his own intellectual or aesthetic satisfaction. Unique and/or representative character is often used to justify National Park status. Basically this is an argument that the conservation value is the cause rather than result of interest and it has profound importance for the approach to park management, because of its potential effect on the dissemination of conservationist philosophy.

Conservationists' zeal for the education of the public into their own way of thinking (their own set of values) is a subject to which this thesis returns in several places. Evangelism based on the argument that conservation value is the cause rather than result of interest presupposes that the more people know about Nature the more they will respect it and recognise its inherent value as justification for resistance to attempts to adapt it to the changing material values of man. Further, they may then be expected to behave in a sympathetic and responsible manner and to accept that the rights of Nature can be reason enough for their own exclusion from an area. The message is essentially the same whether the area to be protected is a pristine wilderness or a landscape created by and now threatened by changes in traditional land use practices. The view that knowledge of value is the cause of interest often generates detailed studies of the attributes which give a park its value. In ecologically justified parks this takes the form of inventory and systematic study of component species, habitats and their relationships, such as characterises Canadian National Parks. [48] Where parks cannot be justified on ecological criteria but find ready acceptance on visual appeal, as in England and Wales, the concern with detail is focussed on quite intricate systems of scenic evaluation and on methods of preserving the key individual elements which contribute to the beauty of the landscape [49, 50]. In both there is opposition to environmental change, but

the role of recreation as an agent of change is open to question.

2.7 ENVIRONMENTAL CHANGE AND ENVIRONMENTAL MANAGEMENT

The major forces responsible for change in the British landscape do not include recreation. Most change has resulted from -

(1) changes in agricultural practices, new agricultural industries, and reafforestation.

(2) demand for land for industrial and commercial development,

(3) demand for land for urban development in support of (2) above or for programmes of improvement for urban areas,

(4) demand for infrastructure to service (1), (2) and (3), including improved and expanded transport and communications, electricity and other energy supply, water drainage, as well as schools, hospitals and other public buildings.

In all the above, recreation is a minor agent of landscape change. There is no convincing evidence that the demand for recreation has led to a structural change in agricultural activities in Great Britain. On the contrary, recreation with its associated conservation emphasis has been a positive force to counteract alterations in the traditional landscape, with greatest

effect in the uplands where rights for recreation are given most recognition and support. The provision of public parks and open spaces in towns has used some land removed from agriculture but this allocation is a result, rather than a cause of the process of change. Indeed, it is arguable that a considerable amount of recreation pressure on the operation of rural industries is a result of inadequate attention to recreation needs in the process of urban expansion so that recreation experience is sought outside the residential environment. Such pressure may cause inconvenience and additional expense to agricultural practice but only rarely can it have resulted in change from one form of agriculture to another, or in agricultural land going out of production.

Reduction of stress and remedy for the failure to integrate recreation opportunities into the changing land use system would seem to depend on further advances being made in methods of management and decision-making in environmental planning. Kates [51] observed that the objectives of comprehensive environmental planning have traditionally been separated into three areas -

(1) the protection of physical and mental health - where the concern is that the environment should be life-supporting;

(2) the enhancement of economic value - where the concern is that the

environment should be useful; and

(3) the preservation of sensory and participatory pleasure - where the concern is that the environment should be beautiful.

Environmental management is directed towards achieving these often incompatible objectives. The policies of environmental management have been such that the procedures adopted take two main forms

(a) direct intervention to reduce threats to existence or to the way of life of the society; and

(b) control by zoning and other land-use regulations, or the direction of development so as to preserve or create predictable environments.

Emphasis is placed on 'predictable' because of the importance of the control or resolution of land use conflict to policies for environmental management. Effective management requires the ability to predict and/or adapt to conflict and this is nowhere more important than in the third of the major concerns mentioned, as is emphasised in the discussion of carrying capacity in chapter 6.

At first sight the control of land use and development may be thought of as primarily related to

urban and suburban environments, but works such as those of Tuan [52], Lowenthal and Prince [53], and Colvin [54] show that the non-urban environment has for long been manipulated in various and dramatic ways for these purposes. More attention now is focussed on the non-urban environment because ever-increasing technological capability, coupled with the demands of rapidly increasing populations, permits a much more rapid and complete manipulation of the natural environment. Furthermore the worst problems of many cities have been eased and investment in rural amenities is able to assume a higher priority. It is the breadth of the conservation concern which is relatively new, bearing in mind that a great part of the early concern of the formal conservation movement (as it developed in the United States and other colonising lands such as Australia) was with the depletion of economically valuable resources through either alienation or misuse. This is a concern which has been revitalised in the last 20 years with growing public attention in the past 10 years extending to Britain.

The revitalisation of concern may be attributed, at least in part, to the fact that despite great hopes and efforts attempts to create urban utopias have had little success. The desire for non-urban recreation in order (among other things) to find at least temporary relief from urban shortcomings, has generated a suite of new extra-urban problems. We have developed the ability for

a mass break-out from our cities without developing an attendant ability to manage the effects on the non-urban environment, mainly because we did not anticipate the magnitude to which the problem would grow. A crisis looms, and in some places has arrived, in the absence of either the intellectual or the organisational resources necessary for purposeful and efficient adaptation.

One should not be greatly surprised at this because it has happened in the absence of properly developed concepts. For example, insufficient consideration is given to the social environment of parks. The British conservation movement is preoccupied with natural environment and may eventually have to accept that its aims cannot be satisfied by resisting the forces operating on the countryside, or by a piecemeal approach to severing small areas to satisfy intensive demands. It is unlikely that the demand will go away and what evidence there is suggests it will continue to grow for some time. The only reaction with long-term efficacy would be to develop comprehensive patterns of parks and facilities systematically related to the importance of each place in serving environmental needs.

2.8 IMPORTANCE OF PLACE

Barbour [55] suggests four diverse roots of the environmental crisis, each of which requires a particular

response. They are:

(1) Attitudes toward nature coming from western, religious and cultural assumptions. Here the need is for a 'new outlook'.

(2) Ecologically destructive practices engendered by the economic institutions of the post Industrial Revolution period. Here the need is for new politics.

(3) Waste-producing technologies. Here the need is for new materials balance.

(4) Exponential increase in consumption as a result of growth in population and living standards. Here the need is for new values and social institutions.

All of these are, in one way or another, value statements. The problem is that achievement of goals related to such values seems to depend on an ability to translate desirable objects into technically approachable tasks. Thus in the realm of parks, tasks related to the first seem inevitably to include the construction of visitor centres and development of 'interpretation programmes'; the second, where it is addressed, uses planning controls and financial incentives; the third is scarcely considered relevant; and tasks related to the fourth have become a pressing problem in park management as

ways are sought to restrict accessibility, to limit total numbers and to schedule visitor entry. These tasks are coming more to the fore as attempted solution by other technical means such as the creation of more parks, the building of car parks, picnic sites and scenic roads have only lead to an increase in the consumption which first made them necessary. The ascending technical task is to develop means to manipulate the location and content of parks so that they and the system contain a high measure of diversity. There is a danger that attention, under Barbour's fourth point, to new values and social institutions could make more rapid progress in creating demand for natural environment and wilderness, than in restoring the aspects of community which seem to have been lost in urbanisation and which may, by their comparatively pronounced survival in rural areas, account in part for their lower level of compensatory consumptive recreation behaviour. The American Gateway Parks show a realisation of the danger of further emphasising the rural-urban dichotomy, and the need to encourage outdoor recreation within the city areas. The difficulty has been to find areas of suitable quality within the cities.

A succint statement of the role of parks in fulfilling environmental needs is contained in a Parks Canada information brochure in the words:

"As individuals, Canadians are learning that

> the quality of life which we seek for ourselves and our children cannot be achieved through material success alone. We need places to relate to the natural world, where each of us can sense the link between ourselves and the world we live in" [56].

The importance of parks is thus to be seen in four functions

(1) contrast to the growing uniformity of surroundings;

(2) reminders of historical roots;

(3) visions of the life of the forefathers; and

(4) indicators of the consequence of occupation of the land.

It would be somewhat more simple if these were the only functions which parks are required to perform. In fact, it is debatable if they are very much in the mind of the visitor when he approaches a park for recreation. This places the park planner/manager in the difficult situation of having to decide what the purpose of recreation is, as well as deciding, in terms such as those above, what the purpose of a park is. The search for technical answers to the question 'what is recreation?' usually results in it being treated as participation in activities because participation can be measured. For any acceptable activity, participation rate may be used as the basis for decisions on how much provision should be made, how much it should be

encouraged or discouraged and whether any action is necessary to direct it to places where it will be less in conflict with management objectives.

The measurement of participation is not, however, particularly useful for explanations of motivation. This is one reason why the carrying capacity problem can prove so intractable. Satisfactions cannot be measured by participation, nor can the benefits absorbed by the individual, carried back to his daily life, and transmitted to society as a result of his recreational experience. These are all assumed, but the assumption is not based on any reliable evidence of the amount of value to the individual or society that is obtained from a particular activity.

One solution to the dilemma of how to relate recreational provision to its purpose might be to adopt a normative approach and concentrate on providing a variety of parks to serve as the setting for specified types of experience. This is a course increasingly being adopted, particularly in relation to wilderness experience. Normative specification of the amount and type of activity in a certain type of park environment rather than development to service demand for activities, requires two assumptions: (1) that motivation is towards the experience rather than towards the activity: and (2) that all behaviour and therefore all use of a particular park must be appropriate to the motivation it

is meant to serve. Success might depend on adequate recognition of a variety of motives. For example, recreational motives may oscillate between a 'push' to escape from an unsatisfying environment (whether it be lack of stimulus or an overload of 'information') and a 'pull' to learn or gain new information or to reinforce that already held.

An individual's value system is based on information he has received from his environment. The flux of information may disturb value systems of social groups, and therefore of the individual as he 'learns' in his social environment. Massam [57] refers to the mid-20th Century move to environmentalism as an example of such a disturbance. The attention given to parks both as an issue and as a source of environmental experience therefore is a significant factor contributing to the flux of information.

The word 'information' is introduced to the argument because it is suggested that human behaviour is essentially learned, and because the response to stimuli are modified by the symbolic interpretation placed upon them. Such interpretation reflects the cultural conditioning of the individual. That means in effect that activity is directed towards a goal - or rather towards a value which is the basis of a goal. Recreation behaviour should therefore be distinguished as responsive rather than reactive. This necessitates

a qualification of the 'escape' theory because, while reaction may be aimed at coping behaviour, response is rather aimed at expressive behaviour [58].

Recreation can be conceived as a means to realise one's values by becoming more like the image one has of what he would like to be. As a philosophical basis for the provision of park systems this may be incomplete but the author believes that it would be wrong to wait until the truth about it is known before examining the consequences of the proposition. Therefore it is suggested that the concept of environmentalism must shift attention from the sense of responsibility for facilities to a greater sense of responsibility for people, for in the end the ability to conserve Nature will depend not so much on precise knowledge of the natural ecosystem as it will on knowledge of the agents of change, the most forceful of which is man. Klausner makes a similar point in referring to the United States Forest Service as possessing much knowledge about burning underbrush, but very little about careless camping behaviour [59].

Another point can be made about the importance of place in an environmentalist philosophy. The experience of urban reconstruction programmes has been that improvement of physical conditions, sometimes to an extremely high standard to match highly developed values of aesthetic design with comprehensive provision for leisure activities, often failed to produce the expected individual and community benefits because it severed, and

did not restore or replace, important social relationships. Despite this knowledge, and similar understanding that good relationships between workers, and between workers and management, are even more important to worker's performance than physical working conditions, recreation planners still seem to regard the quality of the place (e.g., wilderness) as of most importance. The demand for wilderness is really for the utilities that wilderness has in human action systems. As such it reflects complex social and cultural influences.

This was the conclusion of the Outdoor Recreation Resources Review Commission as long ago as 1962 [60]. In that study it was found that urban dwellers are more likely to be wilderness vacationers than rural dwellers, and that a high level of education was positively correlated because training in wilderness values and enjoyment was important. The importance of place then, is as a setting for experiences which transcend the physical nature of the activities. The ORRRC study identified five classes of environmental motivation, as summarised in Table 2.1. The conclusion to be drawn is that every wilderness place provides for different experiences according to the variety of composition and motivation of visitor groups. The difference in attraction of wilderness areas therefore is dependent on their relevance to <u>needs</u>. The same conclusion applies to all other types of parks and recreational facilities.

Table 2.1 Motivation for Wilderness Visits.

	Category	Reason
1.	Exit-Civilisation	Escape crowded cities and resorts, do something different.
2.	Aesthetic-Religious	Observe beauty of Nature, find harmony with Nature, breathe fresh air and drink pure water, communion with God.
3.	Pioneer Spirit	Face danger, explore, live primitively, survive on ones own skill, experience life of pioneers.
4.	Sociability	Easy-going companionship, time with family.
5.	Health	Take-it-easy, restore health, keep fit through vigorous activity, get rid of tension.

Adapted From Table 85 p.147 Chapter 5 ORRRC report no. 3.

With such a distinct variation in motivation as was identified in the ORRRC study it is not surprising that problems arise between those whose goals are preservationist and those for whom natural environment is more the setting for recreational activity. The conservationist's perception of the need to protect

environment from the increased recreation demand from mainly urban sources is reflected in rules declaring the places which may be used for recreation and the times and activities appropriate to those places. The principle underlying many of these rules is the same as that on which support for parks and nature reserves is based, namely that recreation is exploitive and should be controlled in the same way as other forms of exploitation. The argument is that societal values have permitted and encouraged exploitation. The basis of these values is often referred to as the 'protestant ethic'.

2.9 DUALISM AND 'FRAGILE' VALUES

Some of the most stringent criticism of the 'protestant ethic' is directed at its extensive development and support of 'dualism' between man and Nature. This dualism, it is contended, is based on the Judeo-Christian world view of man's superiority, indeed mastery, over Nature which encourages contempt for other forms of life. The criticism is perhaps most soundly based where it is directed at use of this 'ethic' to justify exploitation of natural resources in support of the industrialisation which depended upon them. A second line of criticism is that it also is a 'work ethic' which has demoted and denounced leisure and fostered the idea that quality of life depends on material welfare and belongs to the industrious.

There are two main types of response which characterise those who reject dualism. One emphasises the need for greater commitment to evolving a (new) moral conception of man and of his relationship to Nature. The second is more practical (though perhaps no more necessary) and concentrates attention on the identification of value conflicts and improvements in the way alternative options may be considered in decision-making.

The evolution of an improved moral conception of man and Nature can only be slow, too slow in view of the urgency of the problems, according to those who favour the second course. But while the attempt to incorporate options related to other values into the decision-making process may promise more rapid improvement, in fact it is often both slow and ineffective. This is largely due to the way in which discourse is conducted. For example, a development proposal may be supported by technical analysis by its proponents - an analysis in which they believe, but which is rejected by opponents who present an analysis from their own viewpoint. All parties will be constrained by rules of procedure and by accepted tactics of compromise. Should resolution prove difficult, those at the political level who are responsible for the final decision are likely to decree wider public participation and/or further technical studies. Both usually delay the decision and there is no reason to suppose that technical analysis will assist

in the resolution of controversies based on values which may not even be clearly formulated. In particular, there is no guarantee that further technical analysis will include important information if some party does not wish it to be introduced. The classic example is in engineering developments where the engineer's professional and career interest is so fundamental that consideration of non-engineering alternatives is not carried out. This is exacerbated where the technologists excitement with a large scheme is matched by the opposition's excitement with the prospect of defeating it. In this case a drive to win the victory can effectively block reasonable courses of compromise.

Tribe [61] considers that attempts at objectivity are themselves a fundamental cause of difficulty in incorporating "fragile values" into systematic analyses. He suggests that an alternative approach would be, having once stated the values, to work out the cost of attaining appropriate standards. It would then be possible to decide whether or not it was worth that cost, this being a political rather than a technical decision [62]. But Tribe is concerned that fragile values might themselves become very tenuous if they focus on the satisfaction of individual human wants rather than "a comprehensive understanding of man's place in the universe" [63]. Fragile values are increasingly being reflected in environmental legislation but Tribe considers that such legislation tends to "protect Nature not for its own sake

but in order to preserve its potential value for man". This is hazardous because just as advertising can lead people to value wilderness and Nature, so it can "create plentiful substitutes" [64] . In this view, man could learn to love plastic trees and to feel (believe) they provided the desired or needed experience. If satisfaction can be obtained from surrogates for Nature, then the value of Nature itself is negligible.

This argument can be taken further when it is considered that man has shown his ability to live with minimal direct conflict with Nature. Dubos makes this point graphically:

> "Constant and intimate contact with hordes of human beings has come to constitute the 'normal' way of life and men have eagerly adjusted to it. This change has certainly brought about all kinds of phenotypic adaptations that are making it easier for urban man to respond successfully to situations that in the past constituted biological and emotional threats" [65]
>
> and
>
> "Life in the modern city has become a symbol of the fact that man can become adapted to starless skies, treeless avenues, shapeless buildings, tasteless bread, joyless celebrations, spiritless pleasures - to a life without reverence for the past, love for the present, or hope for the future" [66] .

Dubos does not suggest that this is successful adaptation, quite the contrary. The strength of his argument is that man can learn to live in such a way

"merely for the sake of a gray and anonymous peace or tranquility", with the result that:

> "The ideal environment tends to become one in which man is physically comfortable, but progressively forgets the values that constitute the unique qualities of human life" [67].

Tribe seems to suggest that the solution to this imperfect response is the restoration of emphasis on ends rather than on means such as the 'technological fix'. Adherence to the technological fix must lead in the long run to the contention that there is nothing wrong with plastic trees if that is what people want.

2.10 CONCLUSION

Obviously a fundamental acceptance of something so patently 'unnatural' as plastic trees is some way off, but this is not true of the pressure towards such acceptance. It can be seen, for example, in the argument that Country Parks should be established to divert visitors from areas of the highest landscape quality. There seems to be little difference between the values of those who support country parks for that reason and those who suggest the use of plastic trees in urban areas because they are not as susceptible to damage from pollution and vandalism and require less maintenance. The value of country parks as an alternative to national parks lies in their relevance to other recreational needs and it is suggested that their

purpose should be related to the end of satisfying those needs, not the means of protecting the interests of those who do not feel those needs. The recreation environment can be seen as the relationship between an individual and his surroundings, both natural and social. The conservationist viewpoint emphasises the importance of protecting the natural features of the environment from pressures for change, and from recreation of a type or density which would affect the experience of communion with nature. The environmentalist viewpoint, it is suggested, goes beyond this to consider that the important thing is whether the environment (including its natural features, its man-made developments and the social patterns of its use by man), is appropriate to the full range of human needs.

The following chapter considers the nature of values and needs, their relationship to recreation planning, and to parks as a tool for the achievement of recreation and conservation goals.

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(13) see TUAN, Y.F. (1974) op. cit.

Tuan seems to endorse this view. On pp.246-7 he observes that:

"despite the many surveys of peoples' preferences ... we remain largely ignorant of the quality and range of experience in different types of physical setting under different conditions ... Statistics giving us the number of people who visit the National Parks or buy summer homes are better measures of fashion and the state of the economy, than of peoples' real sentiments concerning nature ... how people make use of their opportunities in a natural environment and how they can be expected to benefit from exposure to it".

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(18) See also the various papers in I.G. BARBOUR (ed.) (1973) Western Man and Environmental Ethics. (Reading, Mass.: Addison-Wesley)

(19) e.g., WARD, B. and DUBOS, R. (1972) Only One Earth: The Care and Maintenance of a Small Planet. (Harmondsworth: Pelican)

(20) e.g., HEINSELMAN, M.L. (1971) Preserving nature in forested wilderness areas and national parks. Proceedings of the Forest Recreation Symposium, Syracuse, N.Y. 12-14 October, 1971. (Upper Darky, Pa.: United States Department of Agriculture Forest Service, Northeastern Forest Experiment Station) pp.57-67.

(21) e.g., BLACK, J. (1970) op. cit., p.6.

Here Black observes that

"the Scottish Highlands provide an example of a man-made wet desert; a long history of erosion resulting from deforestation and sheep farming have (sic) led to ecological stagnation." Nevertheless, under pressure from both environmental and development lobbies, the British Government has made substantial investments to maintain the system of sheep farming and the landscape which is its result. While there also has been considerable investment in reafforestation, planting on a scale which would substantially reproduce the primeval landscape is strenuously opposed. The point is that

people may be content with a landscape of change and unconvinced that the survival of mankind will be less certain if pristine environments are not maintained. Life goes on in the Scottish Highlands, "wet-desert" irrespective.

(22) HART, H.C. (1958) "The Changing Context of the Problems", in M. JARRETT (ed.) Perspectives on Conservation. (Baltimore: Resources for the Future and Johns Hopkins University Press) pp.34-39.

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(24) O'RIORDAN, T. (1976) op.cit., p.53.

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(27) WHITE, L. Jr. (1967) op.cit., pp.1203-1207.

(28) BARBOUR, I.G. (ed.) (1973) op.cit., see particularly Ch.1-4.

(29) PASSMORE, J. (1974) op.cit., pp.1-40.

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(37) ibid., p.191.

(38) O'RIORDAN, T. (1976) op.cit., p.12.

(39) TUAN, Y.F. (1971) op.cit., pp.35-44.

(40) O'RIORDAN, T. (1976) op.cit., p.15.

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(42) e.g., FORRESTER, J.W. (1971) Counterintuitive behaviour of social systems. Technol. Rev. 83, 52-68.

(43) O'RIORDAN, T. (1976) op.cit., p.128.

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(62) ibid., p.67

See also PASSMORE, J. (1974) op.cit., p.43.

Passmore notes the difference between problems in ecology and problems of ecology. The first is a "purely scientific problem arising out of the fact that scientists do not understand some particular ecological phenomenon ... Its solution brings them understanding". The second is "a special type of social problem ... arising out of our dealings with nature, from which we should like to free ourselves ..." In effect problems of ecology are political problems and therefore require a political solution.

(63) TRIBE, L.H. (1975) op.cit., p.70.

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CHAPTER 3 ENVIRONMENTAL VALUES AND RECREATIONAL NEEDS

3.1 INTRODUCTION

Cameron has defined a need as "a condition of unstable or disturbed equilibrium in an organisms' behaviour, which ... may arise directly from a change in the organism's relationship to the environment" [1]. This definition is consistent with the argument of this thesis that it is the relationship between an individual and his environment which determines behaviour. What Cameron's definition adds to it is that this determination works through sensitivity to changes in the relationship, changes which affect the state of satisfaction of needs. It is an important point that the relationship to the environment may have psychological, social, cultural and aesthetic as well as biological and physical origins. Each individual will have a set of standards (perhaps unconscious) which define his state of satisfaction for any need of which he is aware. No-one else can know another individual's standards. For this reason, societal values are important, being premises about rights and priorities for the satisfaction of needs (or wants).

It is the author's view that when policy is stated in relation to social values it is almost invariably stated in terms of individual human wants, i.e., in terms of their satisfaction, even if it is couched in terms such as 'preservation for future generations'. The

emphasis is on a cumulative number of units of satisfaction, rather than on any corporate network of satisfactions. In other words, policy is directed at an aggregate of individual appetites, preferences and desires. This has the result that an environmental dispute, e.g., over preserving an area of wilderness, is more likely to be decided on the basis of human wants that would be jeopardised or satisfied by some development, than on the basis that Nature may hold (or embody) values apart from its usefulness in serving man's desires. Even if this is not the case, the individual-oriented approach gives inadequate consideration to how benefit is to be distributed among men. Utility and justice may be conflicting values just as much as conservation and development.

Tribe and his co-authors diverged on the issue of whether it is necessary to be committed to an evolving moral conception of man and his relationship to nature or whether, that being fanciful, the need is for improvement in analytic and decision-making techniques to give greater recognition to value conflicts and the possible alternatives that might help to resolve them [2]. Recreation planners and managers are placed in a similar dilemma by their responsibility to provide for a wide variety of activities while maintaining and/or improving the capacity of resources to satisfy the needs giving rise to those activities. One of the most difficult aspects of this problem arises when the

satisfaction being sought does not seem appropriate to the resource being used for the activity.

3.2 NEEDS AND RECREATIONAL MOTIVATION

Cheek et al. [3] observed that

> "the current concern by recreation managers over excessive crowding, disregard among visitors for environmental values, and preference for inappropriate facilities and activities may reflect the selection of outdoor recreation by persons whose leisure interests reflect different priorities than those of managers. The popularity and overuse problems in outdoor recreation areas thus may be due in part to the presence of people seeking leisure satisfactions that might be, but are not, met elsewhere".

Boden [4], commenting on an earlier paper which concluded that the main purpose of up to 90% of visitors is for activities for which they do not need to attend a National Park, noted that only 27% of visitors used the nature trails of the Tidbinbilla Nature Reserve (near Canberra, Australia) and that there was a high preference for picnic activities which could be supported elsewhere. Rangers at Yosemite National Park felt that half the visitors there were similarly motivated. The point to note is not that the preferred activities are unsupportable, but rather that the purpose of the visit to the park does not coincide with the main purpose for which the park was established. This may be because much reservation has not been related to the immediate

needs of a large section of the park-using population.

To examine the concept of recreational need, reference is made to Maslow's hierarchy of needs [5] (see Figure 3.1). The method of reference to the hierarchy is explained at the bottom of the figure. In theory, needs lower in the hierarchy must be satisfied before higher needs become a matter of concern to the individual. Thus physiological and safety needs are 'basic' and, though their satisfaction may be deferred, higher needs such as would be served in recreational activity only develop fully when substantial amounts of time are surplus to the requirements for satisfaction of the basic needs. It is suggested then that first and second level needs are absolute, while higher level needs are increasingly more relative.

Maslow's categorisation should only be regarded as a model. It is difficult to accept that lower needs must be <u>fully</u> satisfied before higher needs are addressed as may be implied by what Maslow termed "prepotency" [6]. But the model is very useful because it suggests that the reason for lack of congruence between the purpose of the provider and the behaviour of the user is that provision is mainly directed at fourth order needs while many users are seeking satisfaction of third order needs. This view receives some confirmation from studies by Cheek and others [7] who suggest that the prime motive for outdoor recreation for many, and

FIGURE 3.1 THE HIERARCHY OF NEEDS

ORDER	LEVEL	TITLE	COMPONENTS
4 AUTONOMY	5	SELF-ACTUALISATION	Knowledge, Achievement of Capacity, Acceptance of Challenge
3	4	ESTEEM (ego needs)	Confidence, Self-esteem, Independence and Freedom, Respect and Recognition
CONFORMITY			
3	3	BELONGINGNESS (social needs)	Reputation and Prestige, Love and Affection, Appreciation, Acceptance by a group
2	2	SAFETY (security needs)	Economic security, Physical protection
1	1	PHYSIOLOGICAL	Air, food, water, clothing, sleep, reproduction

Figure adapted from concept of Maslow, A.H. 1954 Motivation and Personality (N.Y. : Harper and Row).

Note: For the purposes of this study the third and fourth level needs, belongingness and self-esteem are grouped into a single order; and Maslow's distinction between cognitive and conative needs is avoided by the consideration only of intellectual knowledge such as might be expressed in the broadening of interest and discovery of detail in Nature.

Maslow (p.98) noted that the order of levels is not rigid, with the main variability between levels 3 and 4. This is taken to support the author's intuitive grouping of these when the concept is limited to recreational needs.

particularly those from 'deprived' urban areas, is less strongly related to values of 'Nature', than it is to social experience. These authors present convincing evidence that, for many, needs are oriented towards social values. A number of writers, notably Hodson [8] and Taylor [9], have observed that these values are undermined by economically directed values such as reverence for growth, aspiration for (and envy of) affluence, and desire for consumption. To them, the 'true' values are traditions, family relationships, the security of the home, physical health and natural surroundings, values which will be expressed in co-operation, humility, permanence and decentralisation. Since the concern here is to link motives for recreation to values and/or needs, and to go from there to some propositions about the setting for recreation activities, there is some merit in observing the basis on which leisure sociologists have reached their conclusions.

Burch [10] was concerned with the purpose of camping behaviour. He found that neither the hypothesis that camping style should depart sharply from at-home routine, nor the hypothesis that it should reflect the familiar pattern of living, was "sufficiently supported to discard other explanations". This failure to find an adequate explanation for camping behaviour in hypotheses of either compensation or familiarity led him to suggest an explanation based upon "personal community", i.e., to the consideration of social groups.

Cheek et al.[11] took this further in a study which showed that visiting recreation facilities is something which is more frequently done with others than alone (compared, for example, with going to work). They concluded that work and recreation travel are "structurally quite different". It follows that it is "more important to know how people organise themselves to play than it is to know the activity in which they participate" because most recreational places are not distinguished by the activities occurring there, but rather by the type of social group present. This is highly relevant to the aforementioned problem of "excessive crowding, disregard ... for environmental values, and preference for inappropriate facilities and activities".

Resolution of the difficulty inherent in the concept of the prepotency of need is necessary so as to be able to respond to the question which may be phrased in a form such as:

"a Park System for whom and for what?"

the answer to which should determine relative planning priorities for type and location of parks.

The underlying problem is that high priority is attached in park system planning to objectives which are related to the fourth and highest order of the Maslow hierarchy - namely, needs for knowledge and self-actualisation. This occurs despite the growing amount of evidence that a significant proportion of visitors to

parks are seeking experiences related to the third order of the hierarchy - namely needs for belonging and esteem. It is not being argued that the degree of attention to fourth order needs should be reduced. A park system should make some provision for all relevant needs and on the whole existing systems do this. It would be fatal to omit fourth order provision pending full satisfaction at the third order levels. Full satisfaction may not be possible (or even desirable) and it seems unlikely that the upper limit of need could ever be determined. In any case, the system is relevant to the society as a whole, and so must offer experiences relevant to the full range of needs within that society. There are a large number of individuals forming social groups for whom fourth order recreational needs are dominant, and whose wants do not include further provision related to third order needs. The points at issue are the comparative lack of attention to third order needs, and the adjustments made to the pressure such individuals and groups are able to exert to ensure that their own needs are serviced. One can, with justification, wonder how much attention would have been given to Country Parks in Great Britain had they not been seen as a means of safeguarding provision made for higher needs, i.e., as a means to prevent perceived 'overuse' and to 'protect the quality of National Parks and remote countryside'.

There are two possible arguments as to why there is

a discrepancy between priorities suggested by the Maslow model and actual provision for needs. Both may be partial explanations. The first is that prepotency may not be complete and needs within one level may have different weights, so that full satisfaction of lower needs may not be necessary before attention is devoted to needs at a higher level, the second is that a distinction can be drawn between want-regarding and ideal-regarding principles.

It seems reasonable that there would be some output from satisfaction of a need before satiation, that this output would provide the inputs to the next level and therefore that the more closely an individual or social group comes to full satisfaction of one need, the more attention will be given to others. The reverse conclusion is that, should some event result in a reduction in the satisfaction of a lower level need, then there will be a shift of attention towards restoring the pre-existing level. This is particularly important where the affected goals are economic or defensive, a simple feedback mechanism operating so as to shift priorities to these goals. This raises the point of by whom, and on the basis of what values, the priorities are determined.

Allardt has observed that

"the values related to need satisfaction are

> differently distributed in societies, and the ground for demanding that some needs have to be satisfied to a certain extent is simply based on the fact that people in some form or other want them to be satisfied" [12].

This leads to the suggestion that the society, or some constituent groups or individuals, will set "tolerance limits" for a need. Allardt also notes that in a society, class divisions and patterns of inequality tend to push need-satisfaction below tolerance limits [13]. While it is difficult to see how tolerance limits can be defined with any precision, particularly at the upper end, and even more particularly for fourth order needs where there may be no upper limit, it is obvious that there will always be some minimum value. In the lower levels of the hierarchy this will be related to survival.

It may be the case that the tolerance limits for the third order (belonging and esteem) have a very narrow range for some social groups and individuals, even if not for society as a whole. (What this means is that only a small input is necessary to satisfy these needs for those groups). Attention could then focus on fourth order needs for knowledge and self-actualisation. The problem, as it appears to this author, is that should such a group (or groups) dominate policy-making the allocation to satisfy need is most likely to follow the same course. Some support for this suggestion can be derived from the familiar statement that planning is

dominated by the middle-class goals of its practitioners [14]. Other groups may be trapped below the fourth order because of low satisfaction at those levels. Here, however, notice should be taken of the implications of "Tocqueville's Law" that "what the few have today the many will demand tomorrow".

The second argument may be introduced by reference to Barry's [15] recognition of two categories for the ultimate grounds for policy making:

(1) want-regarding principles, and

(2) ideal-regarding principles.

He defines want-regarding principles as those which:

> "Take as given the wants which people happen to have and concentrate attention entirely on the extent to which a certain policy will alter the overall amount of want-satisfaction or on the way in which the policy will affect the distribution among people of opportunities for satisfying wants" [16].

Such principles "involve no reference to anything but want-satisfaction" whereas ideal-regarding principles "take into account other features of a situation in evaluating it", by which it is understood that the worthiness of some wants is greater than others. The example Barry uses is pushpin and poetry, suggesting that:

> "a small increment in poetry among a group may, from the point of view of an observer, more than compensate in value for a large decrease in pushpin even if the people actually undergoing the change would disagree" [17].

It is suggested here that this point of view would be

strengthened if the observer liked poetry but detested pushpin. The clear parallel in relation to parks would be an "observer" who liked low-intensity, informal activities, such as walking in remote areas, and detested higher-intensity, more formal activities such as picnics at a popular beauty spot. In considering that ideal-regarding principles are simply this sort of departure from want-regarding principles, Barry suggests that a more radical view

> "would be to say either that the satisfaction of some wants is without any value at all, so that they can be left out of consideration in judging whether one situation is better than another, or that the satisfaction of certain wants is positively bad, so that their suppression is to be counted a virtue in any given state of affairs" [18]. (emphasis added)

Allardt regards the distinction between the two principles as crucial in most discussions of public policy because the argument is usually concentrated on the amount of deviation from want-regarding principles, i.e., "how and to what extent people's wants are to be considered" [19] and he makes the point that, while wants are personally defined needs, the tolerance limits of needs are externally defined by social criteria, and as such "may have differential distributions in different groups".

In the author's opinion, that conception may be extended to explain some features of the priorities evident in public recreation policy. It seems likely that where decision-making is dominated by one social group -

or where the consultation process is dominated by specific groups and interests, as is shown to be the case in Chapters 8 and 9 - the amount of deviation from want-related principles, and the effect on satisfaction of needs at the various levels of the Maslow hierarchy may be large. It is also suggested that although dominant decision makers may define tolerances at the lower levels of the hierarchy by want-regarding principles, these will be the wants of their group and so will reflect their own tolerance limits. It can also be suggested that this is an important factor in stop-go allocation of resources to recreation.

For example, it is obvious that where safety needs (second level) are severely threatened due to outside aggression (or internal disorder), societies tend to allocate more resources to weapons and defence (or police) and less to other needs. Here, perhaps, the distinction is between survival and quality of life. But if, in order to extend this argument, reference is made to Table 3.1, it can be seen that economic prosperity and growth are first level societal goals. If the dominant group attaches higher minimum tolerance limits (i.e., if the frustration of need sets in at a higher level and the satisfaction of need is based on higher standards), they will ensure that energy is diverted into this level at the expense of other levels until this standard is approached, even though it may well exceed the standard related to the values of other

T A B L E 3.1

GOAL DIMENSIONS	SOCIETAL ALLOCATIONS	SOCIETAL GOALS	INDIVIDUAL GOALS
ECONOMY	Investments for economy and social policy	Economic prosperity and growth	Satisfaction of physiological needs (First Order Needs)
FORCE	Investments for the political system, defence legal order	Policital efficiency	Satisfaction of safety needs (Second Order Needs)
INTEGRATIVE SUBSYSTEMS(a)	Investments for family religion, the associational network (b) and social relief	Political participation (c)	Satisfaction of needs for belonging and esteem (Third Order Needs)
KNOWLEDGE	Investments for education, artistic production, and play (d)	Modernization = the use of knowledge in planning	Satisfaction of needs for self-actualisation (Fourth Order Needs)

Table adapted from Table I "ELEMENTS OF SOCIETY" in Allardt (1972) p.9.

Notes:

(a) Equivalent for the purposes of this study to administrative strategies related to cultural values as they are developed and applied by the organisations of government (central and local)

(b) Equivalent to "community".

(c) The problems such as complexity and delay affect the drive towards this goal and it should not be assumed that the societal goal is for full participation.

(d) Play should not be limited to this dimension, but Allardt has it at this level and the arguments in this chapter support the view that most countryside allocations apply to fourth order needs because of the perception that it is at this level that there is a "crisis".

groups. However, it is suggested here that, whereas lower needs are judged by want-regarding principles, higher needs are judged by ideal-regarding principles. As noted, this allows for discounting of certain needs, and it is the needs for belonging and esteem that tend to be discounted. Since it is most likely that investment was diverted from these in the first place, improvement at this third order is likely to be slow and inadequate.

Obviously some recognition is given to the tolerance limits of other groups at the third order but, if as suggested, this is based on ideal-regarding principles, the investment is more likely to be close to the threshold of need frustration than to the threshold of need satisfaction. The simple reason for this is that, for the dominant group, the range between these thresholds may be small, and the frustration threshold at a low level. For the lower status groups the frustration threshold may be higher and the range between thresholds greater (on the evidence of the previously cited authors). Thus their wants are poorly recognised beyond the extent to which they must be satisfied to safeguard the ideals (or authority) of the decision-makers. Policy-making on the basis of ideal-regarding principles thus supports greater investment in self-actualisation. The values are those of the conservation movement and the sheer urgency with which the conservation problem is regarded has hindered reflection on the reasons why

environment is valued other than the need to avoid degradation and, ultimately, self destruction (Appleton, 1975) [20] . Appleton sites the example of attitudes to coniferous plantations and reservoir construction:

> "Sooner or later one hears the phrase 'desecration of the countryside'. Yet it is usually only a few years before the coniferous forests show signs of overcrowding by the sightseeing public at fine weekends and enterprising coach proprietors run day-tours to the artificial lakes. Places which are fortunate enough to have been desecrated by both the forester and the water engineer ... top the list of attractions in the tourist offices" [21] .

To the author it is the same 'problem oriented' attitude which explains the justification of country parks on the grounds that allocation there will reduce the demand directed at 'more valuable' resources. There are various other investments similarly directed at the control of density which, while protecting 'higher' values, so concentrate on informal activities that they contribute little to the satisfaction of 'socialisation' needs for belonging and esteem. If there is a reasonable contention that one group is unsympathetic to, or has rejected the values of another, it may not be the commonly made one that the socially oriented have rejected the wilderness oriented, but vice versa. There is no concern here to debate

this contention on the grounds of social justice, but rather to point out that, if true, it threatens the successful function of a park system in the long term.

It has to be admitted, however, that the contrast drawn here between the social and "self-actualisation" orientations is oversimplified. There is a considerable amount of altruism amongst what have been called the dominant groups, but the overall effect is as described here, i.e., a lack of adequate attention to third order needs in a way that serves the values of the user rather than the ideals of the planner or those who most influence him. The procedure for consultations and the nature of the comments on the Countryside Commission for Scotland's proposal for a park system, which are discussed in Chapters 8 and 9, confirm this view. This chapter now continues with further consideration of the Maslow model.

3.3 NEEDS AND SOCIAL VALUES

It was argued earlier that the idea that lower order needs must be satisfied before higher order needs are addressed, an idea implicit in the Maslow hierarchy and seemingly accepted by other authors [22], is open to question. The suggestion that those seeking self-actualisation and challenge do so because their needs for love and belongingness are fulfilled or largely so,

does not ring true to a human experience which suggests that some needs can be sublimated to some other motivation. While the peril of drawing parallels from animal studies is recognised, it is interesting to note that, in a review article on animal behaviour studies, McFarland [23] observed that recent experiments have shown that it is not always the case that an animal behaves according to its "dominant motivational tendency at the time". Animals have several ways of exercising behavioural options and"it is now recognised that animals can interpolate sub-dominant activities for short periods of time, which remain under the control of the dominant motivation". It does not seem unreasonable to suggest that one of the distinguishing features of man is his far greater ability to make such substitutions. It is suggested here that one social class may have a higher propensity to make such substitutions than another if there are more forces in the social environment of its members which can activate the higher needs.

At this point attention is drawn to the concept of substitutability of recreation pursuits. Hendee and Burdge have drawn attention to the implications of the concept for recreation research and management [24], and Beaman has commented on their paper [25]. The significance of the concept is that, if similar satisfactions can be obtained from different pursuits, it may be possible to solve some of the problems of

imbalance between supply and demand for particular activities or types of provision by supplying suitable alternatives. Provided recognition is given to Beaman's point that activities may occur together because they constitute a complementary package, rather than distinct alternatives, it does seem possible that studies of the correlation between groups of activities might suggest planning options in respect to the particular preferences of individuals or, if they can be identified, social groups.

The Tourism and Recreation Research Unit at Edinburgh University has carried out a study of substitution using data from Scottish recreation surveys[26]. This study examined both activity packages and "life-style" groups (somewhat equivalent to "social groups" in as much as they were defined by cluster analysis of socio-economic variables). Though the life-style analysis was more satisfactory than the activity analysis[27], it was noted that

> "additional information on variables that act as cultural indicators ... suggested that such variables are sufficiently important to overrule the distinctions based on socio-economic variables in the clustering process. This finding (led) to the conclusion that ... participation ... may be largely the product of the leisure system in a particular area"[28].

A full review of this study is not possible but the

issues it raises and its suggestions for future research are not unrelated to the subject. The quotation above is taken to support the suggestion, adopted herein, that measurements of participation rates are better indicators of fashion and economic conditions than of environmental attitudes. Two points can be made: firstly, measured rates are related to existing supply which may more closely reflect the pre-occupations of the providers than the needs of the users; and secondly, with particular relevance to the environmental arguments in Chapter 2, the same behaviour can have different effects in different places.

The Maslow hierarchy is widely accepted in environmental planning because it serves as a model which fits the general pattern of rising aspirations following the satisfaction of what can be called the 'basic' physiological and safety needs. The problem with the model lies in the suggestion that desires cease to function as soon as they are gratified. It is more correct to say that new desires come into play, i.e., higher-level needs acquire some force. This does not require anything like complete gratification of other needs, or necessarily any gratification at all, provided the force which activates a desire is strong enough. Thus, if there is no reason to <u>expect</u> that a particular need will be satisfied, desire may be directed at another need, which may be at a higher level of Maslow's hierarchy. This problem may be obviated by

the suggestion, drawn from Emery and Trist [29] that the magnitude of attraction to each level may be a factor of its proximity in value space. In that case, it could be argued that, for every individual, there would be a number of items of desire which could activate the force of a need at a particular level, and that it could not be activated by items of desire relevant to other classes of needs. The items of desire activating the force of a particular need would be a function of the individual's social and cultural milieu. This argument would explain the growing concern with wilderness which seems to express high-level needs of self-actualisation amongst a section of the population that clearly expresses dissatisfaction with the achievement of lower level needs in the urban environment. Thus what is often spoken of as the 'need' to escape from the discomfort of the urban environment is probably not a 'need' at all but a form of coping behaviour that reflects failure to achieve satisfaction at one level. The role of values is that they account for the change in dominance of different behaviour in a manner which, far from being capricious, reflects the competition between desires. At any one time the force of a particular item of desire will be a function of its similarity (i.e., its proximity in value space) to other objects desired at the same time. Thus, while there may be a continuous desire on the part of an individual for an unpolluted, peaceful, uncrowded, urban environment in which natural objects and surfaces dominate those made by

man, the impossibility of such may lead to an intensified desire for wilderness, the offerings of which are concordant with the continuously perceived desire for the environment of every-day life. Because he can then identify the existence of wilderness with the potential fulfillment of unsatisfied needs, he is likely to be very concerned with the survival of that wilderness and willing to enter into conflict to ensure it.

That willingness to engage in conflict about wilderness is, by this argument, a reflection of its symbolic value to the individual. Conflict occurs over issues, in this case the survival of wilderness, which offer satisfactions not obtainable elsewhere. Wilderness as an issue has grown in importance with the growth of both the conservation and environmentalist movement discussed in Chapter 2. In Great Britain this growth can be seen in the demand for public access to rural land, and its outgrowth in the call for national parks. The development of those issues is the subject of Chapter 5.

There does not appear to have been any substantial advance on the categorisation of need put forward by Maslow. Significantly the Maslow model formed the reference for discussion in the most relevant work seen by this author in the course of this study. This was the extensive study of perceptions, evaluations and satisfactions entitled "The Quality of American Life"

(Campbell, Converse and Rodgers, 1976) [30]. Its authors state that "some of the abstractions of Maslow's theory, self-actualisation for example, are difficult to convert directly into language which is suitable for national survey and we were forced to seek a medium which was closer to everyday experience .. (and) chose to develop our inquiry around .. 'domains of life' of which 12 were selected" (e.g., marriage, family life and health). Nevertheless they acknowledged that conceptually the Maslow model was the most satisfying, and for the same reason it is used in this study as the main framework for discussion.

Bradshaw [31] does, however, identify four types of need in the context of provision as a social service, but this is a question of the motive for <u>supply</u> of facilities rather than the motive for <u>using</u> them. His taxonomy, which forms the basis for a discussion of the concept of recreational need by Mercer [32], distinguished four types of need in the context of provision as:

(1) normative need - deficiencies in provision below accepted standards (e.g., area of open space per thousand population);

(2) felt need - subjective wants which may be expressed, e.g., in interviews;

(3) expressed need - actions based on felt needs which may be measured by numbers

using sites or performing activities;

(4) comparative need - actual variations in provision or in the ability to participate which may indicate relative deprivation.

These types of need clearly attract the institutional leisure services. The pitfalls of "using these approaches" are discussed in Mercer's paper and in a number of others, most notably that by La Page [33] entitled "Cultural fogweed and outdoor recreation research". The most serious difficulty is that values (and needs) inferred from behaviour often are used to explain behaviour and so to determine the scale and type of provision. The outcome of this is the emphasis on resources and facilities rather than those who use them and is well expressed by Rapoport and Rapoport in the ninth of their propositions directed towards a "people-orientation" of leisure provision:

> "Institutionalisation tends to give rise to a gap between the goals and procedures of the providers and the needs and desires of those provided for" [34].

This is a shortcoming which has to be accepted because "institutionalisation is required to meet the demands of the leisure explosion", demands which arise from desires for satisfaction of recreational needs.

3.4 SATISFACTION WITH RECREATION EXPERIENCE

Although considerable research has been carried out on the willingness to pay for use of recreation resources

and facilities [35], the relationship between the quantity (number) of visits for an activity and the distance to the facility as a proxy for its price [36] and the expected response to changes in site characteristics [37], it is difficult to imagine any reliable way in which satisfaction with a recreational experience could be measured. It is assumed, apparently, that a person is 'satisfied' if he either does not complain or if he returns to repeat the activity, but there may be several other reasons for repetition of an activity. Habit is clearly one such reason, but lack of knowledge of alternatives may be an even more powerful reason. The British habit of driving into National Parks and sitting in the car to read the Sunday paper is frequently lamented, but there seems to be little justification for suggesting that such a person would receive greater satisfaction if he went for a walk. It is equally possible that his recreation motives would be frustrated or sublimated in either experience, and that he simply sees informal parking as the best alternative available. Hall contrasts the frustration and misery of picnickers on roadside verges with the potential - he thinks measurable - satisfaction which he suggests they would find in a well-organised country park [38]. Significantly, both alternatives provide scope for family activity. Studies by the author identified driving into the countryside and picnicking, as one of the few pursuits which allowed people of all age groups having various degrees of physical competence to participate; it was

often the only suitable activity likely to reinforce family relationships of which the participants were aware. Hall may be correct in suggesting that a well-run country park, i.e., one which offered activities for a wide range of physical inputs suitable for all age groups, yet providing the environmental relief of the countryside picnic without the dis-amenity of other traffic flow, would give a significant and measurably higher satisfaction. If this is accepted the logical outcome is to give much greater attention to means of access in park system planning.

3.5 SOCIAL VALUES : EFFECTS ON DEMAND FOR PARKS

Every visit to a park, or any other recreation area, represents a conscious decision to satisfy a need for a recreational experience. Reference was earlier made to the importance of needs related to socialisation which are at variance with the aims of many park planners and managers. In their view parks, particularly national parks, should provide experiences that depend on contact with Nature, rather than on opportunities for socialisation. Never far away from the philosophy of the Nature-oriented park is the idea that if only man can be placed in a better environment he will behave better. As has previously been mentioned (e.g., in Ch.2.2) this idea is often subscribed to by those who regard leisure as the opposite to work and/or the countryside as the antithesis of the town. There is a

propensity, not universal, to regard the one as 'good' and the other as 'bad'. In its most extreme form this attitude expresses revulsion at any sign of manipulation or modification of 'the environment' by man. Urban, particularly industrial, environments are seen as basically antipathetic to the well-being of man and "escape", at least temporarily, is said to be necessary. While the extreme view is not common, there is wide support for the idea of outdoor recreation as 'escape', which emphasises naturalness, wilderness, and challenge. The ideal recreation environment is seen as one in which the individual:

(a) communes with Nature on Nature's terms
(b) finds solitude and through it mature self-awareness
(c) depends on native abilities in the absence of technology.

This relationship with Nature, it is believed, will lead to a new attitude to the natural world. These three points are roughly equivalent to the effective, cognitive, and behavioural components of attitudes related to fourth order needs.

One problem with this view is that it is unrealistic to assume that man can ever be free of his past and, even more so, that he can be free of his own nature which is that of a social animal. It is not reasonable to claim that wilderness and solitude serve 'better' values than does community there being scarce opportunity, and

perhaps for the majority, no desire for wilderness, even in nations where individual values are widely publicised. The recreation environment of an individual is a thing of his own making in the sense that he brings to his destination perceptions, values and abilities based on his own experience. The main determinant of his experience is his social environment which, for most people, is urban if not metropolitan and, for the rest, is decisively influenced by urbanisation. Thus most countryside recreation is the use of the countryside by townsmen and is related as much to the urban lifestyle as it is to the non-urban environment.

A characteristic feature of urban life for many is the ability to choose where, and with whom, one shall engage in leisure activities. Leaving aside for the moment the problems of the poor and, for whatever reason, the housebound, freedom to choose where and with whom one will spend his leisure is characteristic of town and city. Urban man is accustomed to identify satisfaction of needs with specific places, and in general to associate different social relationships with those places. Thus there is an apparent lack of territoriality about his social networks, and the opportunity to insulate himself to a large degree from his immediate neighbourhood if he so chooses. It is wrong, however, to state that mobile urban man is non-territorial. What is more likely is that territory has become discontinuous, because centred around nodes of action space. Our prodigious mobility

permits recreational nodes to include far-flung parks as well as local pubs and sporting facilities. These territorial areas will be defended, with variable determination, for the same reasons as a bird defends its meeting area or a ghetto gang its 'turf'. However much the methods may differ, each is defending a life space which is dependent on needs and goals and defined by the range over which locomotion is possible and the ability to perceive opportunities for satisfaction within that range [39]. It is noted here that this point is related to the concept of "social space" which has been discussed in a wider context by Buttimer [40] and, with particular reference to recreational "time-space circles", by Coppock and Duffield [41].

It is now suggested that it is the factors which effect this "ability to perceive" which determine not only whether use will be made of a recreational opportunity such as a park, but also what use will be made of it and therefore whether that use will be compatible with the values of the providers of the sources of the influences which act upon leisure-time behaviour.

> "(1) The groups to which we belong and whose controls and norms bear upon us.
>
> (2) The culture into which we happen to be born, whose interlocking and complex pattern of groups, institutions and prevailing ideologies sets a climate

of opinion for all of life, including our attitude towards unobligated time and its uses.

(3) The limitations and potentials of our bodies and minds that influence the selections we make within groups and society and our own creative contribution toward new patterns of organisation and thought in them" [42].

The extent of the 'action space' over which these influences operate varies in terms of the number and intensity of contacts which provide information, in the sense of knowledge of the subjective environment. The individual's reaction will depend on whether he perceives the environment in contact as threatening, supportive or challenging. If reference is made back to the Maslow hierarchy, it can be seen that a perception of challenge is at the top level and might therefore be expected to be rare amongst those for whom lower level needs are unsatisfied and information is uncertain. It may be concluded that a good deal of the 'unnecessary' use of parks, such as that identified by Boden, can be attributed to the manager's attribution of self-actualisation and knowledge as the prime offering of parks, whereas for many users what matters is safety and a sense of belonging. In other words, the planner wants the system to provide challenge and re-creation, while the user may want the system to provide, say, freedom and therapy. The park then is important as a place conducive to preferred patterns of socialisation.

Some support for this conclusion is to be found in a paper by Lee [43] in which he identified three features important to the definition of place. The first is a sense of belonging which may take either or both of two forms, belonging through possession and/or belonging through knowledge. He points to a correlation between social status and the importance of each sense, belonging through possession being more important for 'higher' status individuals and belonging through knowledge for those of 'lower' status. (This finding seems relevant to the size of park systems and to park interpretation programmes). Lee observes that "living space in middle income neighbourhoods is governed more by formalised rules of property ownership than by rules for negotiating mutual expectations on a personal basis". The conclusion may be drawn that higher-status individuals have a sense of belonging to places over which they are able to identify rights and are likely to be concerned with the interpretation of rules which govern those rights. Lower status individuals will be less concerned with rights and ownership and more with knowing what contacts, relationships and behaviour they can expect to exercise and encounter in a place. (While the relevance of this becomes clearer from the two other features identified as important to the definition of place, the passing comment is made that the concern with belonging through a right of possession can be detected in the issue of access in British countryside recreation. For example, almost half the clauses of the Countryside Scotland Act (1967) deal

with the subject of access).

The second feature identified by Lee is "the cognitive structure or organisation of the spatial environment", of which the most important element is "edge". The edge is the place beyond which an individual can no longer rely on the same scheme of order and so must become more aware of environment, if only because there are more things which do not 'fit' and must be interpreted. (The edge effect has wider importance than its immediate relevance at this point)[44]. Lee considers that the middle classes treat open space as public space and therefore as nobody's space. Such spaces become, in effect, pathways between "significant places", presumably places for which there is a strong sense of belonging. Working class people treat accessible open spaces more as "at home" space, bounded places in which they belong but beyond the edge of which lies a threatening uncertainty. This reinforces Lee's first point of middle-class emphasis on possession and working-class emphasis on knowledge.

The third feature identified by Lee is the expectation of legitimate social control over the use of space and its organisation. This point appears more relevant to neighbourhood than to other parks. Lee observes, for example, that idiosyncratic behaviour may be tolerated - perhaps perforce - in the neighbourhood but beyond it, at and above the district level, it may

be tolerated only if condoned by the community and its agents of law enforcement. The implication of Lee's argument is that larger parks are less 'belonging' for lower classes and that, in general, they may use them only in groups large enough to define a common territory they can identify as a place where their type of people is acceptable. Lee notes that this may involve display rituals, i.e., a kind of territorial marking which establishes temporary personal space. An alternative, noted by Lee, is the visiting picnicker who holds a small personal space, i.e., he takes possession of the space rather than the relationships around it. Something similar seems to be in evidence in the behaviour of British motorists on picnics. It has been observed that a very close link is kept with the car which provides a reasonably inviolate personal space. [45]

The considerable danger of making glib assumptions about 'class' is recognised. The term and its underlying concept is used here because it is such common parlance, but it is acknowledged that the definition of class is arbitrary and it is used here as a convenience. While it is common to group according to objective factors such as occupation and income and to ally social specialisation to them, this discussion is based on the assumption of motivation by similar values as the fundamental determinant of class, because these values are, to a large degree, determined by the social circles

in which an individual lives, works and plays. This seems to be a far more dependable basis than economics in view of the rapidly growing ability of most occupational groups to increase their discretionary expenditure, i.e., to spend money on their leisure. It is contended that, in Australia at least, it is the nature of expenditure rather than the ability to spend which provides the distinction. The recorded growth in leisure expenditure in Great Britain (see, e.g., Myerscough, 1974) [46] suggests the same trend exists there (cf., Linder, 1970) [47]. If, then, it is style-of-life which defines class it is not unreasonable to suggest the need for much greater emphasis in research on the role of open space in the quality of life, rather than assuming that particular per-capita ratios of open space and facilities for recreation and leisure are minimal or optimal, as though there were only one life-style to consider. As Mercer says, "some actual evidence might be enlightening" [48].

Lee's conclusions seem relevant to territoriality in recreational behaviour and suggest that economic ability is not the sole determinant of low patronage of larger informal and/or remote places by lower status groups, who have no particular sense of 'belonging' related to those spaces. Lee observes that the characteristic use of these spaces by higher income groups is possessive and is responsive only to formal social

control. Thus "man's relationship to the non-human environment can be typified by patterned expectations, norms or rules that ensure predictable behaviour". This is at variance with the idea that leisure time is used to escape from the borders of ordinary society and to be "oneself" and "free". Lee considers that people seek areas where they may share a scheme of order with others similar enough to themselves to be able to take for granted many "everyday normative constraints". It follows that there is a need to eliminate "socially problematic elements", i.e., anxieties rather than "normative constraints", i.e., rules. If Lee is correct, then it is reasonable to suggest that there should be much greater attention given to planning open spaces, and in particular parks, for their social function. This would involve a variety of expectations which would influence the whole process of reservation, design and management, but it is not inevitable that this would conflict with any high level goal such as provision for the benefit and betterment of the people. The problem would always be to know how much mix to build into the system so as to reduce anxiety, and destructive conflict, yet to promote adaption.

3.6 THE RECOGNITION OF CHANGING NEEDS BY POLICY-MAKERS

Despite the still severe problems of economic deprivation in some urban and rural areas of Great Britain, the fact that the poor are always with us and

the recurring depressions in the rate of economic growth, there seems to have been a general move upwards in the hierarchy of needs, i.e., more people have begun to concern themselves with needs for esteem, recognition, and self-actualisation. National concern, while still very much focussed upon the ill-housed, ill-clad, ill-nourished and, increasingly, the unemployed, has moved towards a greater focus on equity, participation, respect, challenge and personal growth in response to people's rising expectations. Aspirations have increased even if achievement is limited. Governments are aware of, and have accepted, responsibility for the satisfaction of the needs of their peoples.

Policy makers are more experienced in dealing with the satisfaction of economic needs than with psychological needs, a situation which is important for two reasons. First, satisfaction is a perceptual concept, i.e., it can be regarded as the perceived discrepancy between aspiration and achievement, and second, the level of aspiration has been rising fairly continuously, as was noted earlier. These facts clearly make the policy-makers job more difficult because he must first have some feeling for (if not knowledge of) peoples' aspirations, and second, he must accept that any success in providing satisfaction may be met with a higher level of aspiration. This seems to be the common course of environmental policy making, e.g., a clean-up of one noxious element in the environment often has been

followed by demands for still higher standards and for the clean-up to extend to other pollutants. In a similar fashion, allocation of land for conservation, e.g., in National Parks, has often been followed by demands for stricter controls to ensure ever higher standards of conservation within those areas.

Allardt [49] has suggested that the whole concept of public welfare can be defined in terms of need-satisfaction, so that the outputs of welfare measures should be assessed in terms of the needs they satisfy. Since the policy maker would clearly wish to have some way of measuring such output, there is a concentration on economic measures. Smith notes the importance of the ability to measure performance:

> "..objectives and the alternative courses of action leading to them (must) be clearly specified and carefully costed. Government agencies must be aware of what they are currently buying and what alternative patterns of expenditure might buy for them. This requirement applies to all the action programmes which make a particular policy operational. In performing this analytic function the government planner provides valuable information for the perception and evaluation stage (of the decision making process) by developing quantitative specifications of community needs" [50]. (emphasis added)

Smith comments that output budgeting and planning-programming-budgeting systems are techniques designed to

assess the financial cost of alternative strategies for the satisfaction of needs.

Subsequently, Smith states that "without the expression of objectives in quantifiable terms, little can be done in monitoring progress", noting as an example that "although a number of policies have been designed to meet the needs of the elderly, the information relevant to evaluating them is derived from observations of the services and institutions provided and not the users or clients of those services" [51]. This is a particularly difficult problem in recreational planning because of the difficulty in carrying out adequate surveys of those who do not use recreational services and so of determining what their needs are, and why they are not being satisfied. Even surveys of users provide limited assistance. Smith refers to the observation by Abrams that:

> "people have expressed their lowest levels of satisfaction for areas of life, such as leisure, housing and education, in which there have been considerable advances in terms of inputs in recent years, measured by expenditure on leisure, houses built and numbers in higher education" [52].

The policy-maker is on perilous ground if he assumes that economic measures will provide an adequate indicator of satisfaction, because the quality of life is not so simply and universally related to the level of material

possessions or, for that matter, of services. It is for this reason, as much as any, that standards for the provision of open space and recreation facilities are less than adequate indicators of the potential satisfaction of recreation needs. It is here that values and ideals become important because it is a valid role of government to go beyond the fulfillment of lower level public needs towards the raising of public aspirations in regard to higher level needs. Standards of provision may have little relevance to the individual in any case, being instead a frame of reference by which the policy-maker may judge his own satisfaction. The individual - or social group - may have very different frames of reference. His aspiration may be some future condition similar to a planning goal, a level he hopes some day to achieve, but that may exceed some lower level which he really expects to achieve. The two most obvious factors influencing these two levels are first, the standard he knows or assumes applies to some peer group, e.g., other people with the same income or occupation, or of the same race or nation; and second, the standard he thinks would be equitable, i.e., fair in proportion to the achievement of other groups identified on a similar basis to those in the first instance. This seems to be related to the common observation referred to earlier in relation to social space, that people may live in an objectively definable environment, but they perceive a subjectively defined environment, i.e., they have a 'psychological life space' which is

dependent on their needs, drives or goals and their 'perceptual apparatus' [53]. Wolpert suggests that the extent of this space, which he calls "action space" varies in terms of the number and intensity of contacts from which an individual receives perceptions or information but also in terms of life cycle. The latter is complicated by sex, race and socio-economic variables [54]. It is suggested that because this "psychological life space" determines attitudes it appears to effect the behaviour of the individual in the way he copes with, or adapts to, the objective conditions of his environment.

Current interest in the use of an extended range of life-cycle descriptors in the analysis of recreation needs and behaviour [55] shows a significant advance on the rather crude use of socio-economic variables as surrogates by which to predict demand [56].

3.7 CONCLUSION

Reference was made earlier to Barry's discussion of the ultimate grounds for policy-making. His discussion of wants satisfaction includes consideration of the basis on which it may be attempted. There are two principles

(a) aggregative - which concerns the total amount of want satisfaction of a reference group. This includes

consideration of efficiency and expediency.

(b) distributive - which concerns the way in which want satisfaction is divided amongst a reference group. This includes consideration of justice and equity.

He observes that distributive principles may be further classified as comparative or absolute. The first (comparative) involves comparison of the position of one person with another - whether he should get more, less, or exactly the same amount of want-satisfaction. The second (absolute) allows specification of what one individual in a particular category should get regardless of what anyone else gets. Minimum standards are an example of absolute distributive principles. Barry notes however that

> "the principle that special treatment should be given in respect of certain qualities or achievements may be of either kind : it all depends on how the 'special treatment' is specified" [57] .

This thesis is concerned with the effect of conflict on the distribution of recreation resources, bearing in mind that the word 'resources' is being limited in meaning to opportunities which are actually utilised. It is suggested that some of the conflict is due to the adoption of aggregative principles by some planners and interest groups and the adoption of distributive principles by others. This has the result that the two

may be arguing about a different thing. For example in the issue of access the aggregative consideration of expediency may be that some provision for motorists is needed in order to achieve an end less directly related to the motorist than it is to the walker seeking solitude. The reason for consideration in the first place may have little to do with satisfying the wants of the motorist, but rather be aimed at ensuring that in seeking want-satisfaction he does not reduce the satisfaction of the reference group of walkers, (i.e., measures are taken to increase the latter's satisfaction by controlling the motorist). The opposing view would be to consider that motorists were entitled to a certain degree of access to an area either on a comparative or absolute basis, or that the rights, e.g., of a cripple to see the view from a peak should not be limited by the opinions of the more athletic that there be no visible sign of road development, and that a higher degree of satisfaction should result from reaching a summit achieved by a limited number of others, who are members of the same reference group. Others may hold the opinion that it is just as equitable to provide undeveloped areas and that the total amount of satisfaction achieved by doing this is as great or greater, because these areas are relevant to higher level needs.

The major difficulty in resolving such an argument is to know how to quantify the satisfaction obtained

from the two (or any other) alternatives. A Pareto optimum is not really applicable because it may be impossible to show that though at least one group has gained in want satisfaction no other group has lost. If note is taken of Dansereau's "law of the inoptimum"[58], that no species finds in any given habitat all the conditions most suitable for all its functions, and recreation archetypes equated with species, it is suggested that so long as there is a core of habitat in which a species is dominant, it will maintain sufficient energy to compete in habitat where conditions are marginal and dominance is less well defined. If it is further noted that the principle of competitive exclusion suggests that dominance will be achieved by one of the competitors, it can be suggested that the result of the motorist-walker conflict, and others like it, must eventually be a reduction in the distribution of areas in which there is overt competition because one activity will successfully exclude the other either by force (e.g., dominance for walkers when the planning system is used to exclude road development) or by changing the habitat to more closely match the optimum (e.g., dominance for the motorist with the development of roads and ancillary parking areas, toilets, etc.).

The implication of these observations to park system planning is that the ideal system will be related to the full range of recreation motivation on the

understanding that each trip has a goal, which is to obtain a certain experience. The planner's task, therefore, is two-fold, first, to ensure that the experience offered in each area is consistent with the goal for that area and for the system, and second to ensure that the system as a whole offers a full and adequate range of experiences. The problem at present is that if system goals are narrowly defined by conservation values which are not universally supported they may be irrelevant to motivation for recreation. Both conservation and development, now seen as values, might be better seen as means of ensuring that certain goals can be achieved in certain places, but this will require a much more aggressive strategy to develop recreational aspects of Park Systems than is currently seen in existing and proposed systems of conservation. Clearly, the two aims must either be totally separated, and parallel systems developed, or equal priority must be given to each aim in a managed system. At present competing demands upon parks lead to conflict and a less than satisfactory quality of recreational experience.

In the following chapter some concepts are drawn from the theory of systems, especially as the concept is applied in planning, to set the background for a discussion of park systems and the proposal for a Park System for Scotland.

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In the "prepotency" argument the two opposing views are, first, that higher needs will not be activated until lower needs are satisfied and, second, that as the magnitude of desire for satisfaction of one need increases, others decrease, i.e., that needs are mutually inhibitory. Reversed, this argument suggests that one need will become stronger as another becomes weaker through being satisfied. This is more acceptable than the suggestion that a lower level need must be fully

satisfied before a higher level need will be expressed, but it has the weakness of implying that needs are automatically triggered.

It is suggested that needs are triggered by values, that values may act as attenuating variables to cut off the expression of a need, and that the interaction of value sets is determined by culture and social interaction. The reservation about Maslow's idea of prepotency is that, above the level of physiological needs, the enculturation process acts to increase the number of objects of desire in some classes more than in others. Thus it is suggested that the preponderance of middle and upper class participants in some types of outdoor recreation (in fact most types in the countryside) is not purely economic and does not reflect the fact that their needs for love, belongingness and self-esteem are satisfied, but rather that there is a greater force for the development of values of individuality, self-actualisation, knowledge and challenge operating than amongst "lower" classes where unity and belongingness, as suggested by Burdge, Cheek and others, are more highly emphasised.

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(19) ALLARDT, E. (1972) op.cit., p.15.

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It is noted, however, that other authors, for example:
ETZIONI, A. (1968) Basic human needs, alienation and authenticity. Am. Sociol. Rev. 33, 870-885, consider that the cultural determinants of needs can be overemphasised.

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(44) The importance of the edge effect should be noted, though it is beyond the scope of this thesis to treat it in detail. Two points have particular importance: firstly, there is the parallel with the "ecotone" and secondly, there is the importance of edge in aesthetics, particularly as features which organise the landscape and, in a more purely recreational sense, provide the focus for much activity. (The simplest example is a beach)

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CHAPTER 4 PARK SYSTEMS: SOME CONCEPTS IMPORTANT TO RECREATION ENVIRONMENT

A. SYSTEM AND ENVIRONMENT

4.1 INTRODUCTION

The environmentalist perspective outlined in Chapter 2 suggests that it is necessary to achieve both adaptation to change and control over change so that it proceeds in the direction of responsible goals at a speed with which (on the whole) man can cope. The main force of this argument is that high environmental quality depends on the will of man to achieve it. At the root of such a will must be an understanding of the effect of his other goals (e.g., those related to standard-of-living) on his physical and social environment. "Environmentalism is typically a reflection of scientific humanism and of its belief that science (knowledge of causes and effects) is the key to enlightenment and enlightenment is the key to the betterment of the human condition" [1]. General systems theory has gained considerable acceptance as having the highest potential for increasing understanding of causes and effects and of how to exercise control over them.

The systems approach is a method of analysis of a set of interrelated elements or parts of a whole which is more than the sum of its parts. Study of the interactions or relationships within the system and

between the system and its environment is essential to systems analysis. This goes beyond the provision of catalogues of information about the individual parts of a system. The full meaning of the parts is only to be found in the whole. The environment of the system may include other systems which impinge on the studied system, or larger systems of which the studied example is a subsystem [2].

A fundamental argument of the systems concept is that it is the arrangement of the components, just as much as their nature which is important [3]. One weakness in applying the word 'system' to park provision is that in the strict sense the parts of a system do not qualify as much on the basis of their inherent qualities as on the relationships they form by virtue of their position in the system. While it is true that the parts may need to have certain attributes which enable them to fill a position in the system, in park systems the relationship between the parts may be very poorly defined and the qualification for consideration as a park is often almost entirely based on internal attributes of the park. This has some importance to the ability of a system to adapt to pressures from its environment. It is a normal course of events for a system to develop fixed arrangements of its parts with increasingly specialised function as it responds to 'feedback' [4]. This gives a system its structure. These comments, in passing from reference to systems in general to park systems in

particular, now refer more to the social system for which the parks provide some satisfaction of needs, and the planning system which attempts to organise the system for this purpose. The planning system attempts to use regulatory feedback mechanisms to control relationships within the system.

It is in the fact of organisation that a system exists, [6] and parks are the organised parts of a park system. The systems approach is relevant to the study of the way the parts of a system function [7]. For that reason this study does not include systems analysis in any real sense, but rather investigates some factors which influence the organisation of park systems, with particular reference to the proposed Park System for Scotland.

There are three particular sets of factors which could have been studied. The first are factors relevant to maintaining the existence of the parks, i.e., to their ability to produce a base level of satisfaction of the goals of the park system. Goals are generally to provide recreation and ensure conservation in support of environmentally-oriented values. This is the management function. The second set is factors relevant to adapting a park system to pressures acting upon it. Such pressures include changes in patterns of recreation behaviour and new demands for exploitation of

resources. This is the planning function. The third set is factors relevant to establishing the park organisation in the decision-making process so as to be able to effectively carry out its planning and management functions. This is the political or regulatory function, and most attention is paid to it.

Three main types of system are commonly identified in the literature. These are equilibrium, homeostatic, and adaptive systems. It is suggested that the third is the appropriate model for social systems just as it is for ecological systems, but reservations about the direct application of ecosystem concepts to social systems must be noted [8]. Planners are sometimes accused of attempting to treat complex adaptive systems as homeostatic [9]. In a homeostatic system inputs of information and energy from the environment are necessary to maintain the steady state. In an adaptive system, however, it is variations in structure which are crucial, i.e., variations in the way the parts of the system are arranged. In the context of a park system this does not necessarily mean that new parts must continually be added or that old parts must be withdrawn, though both should be possible. Rather it means that the function of parts of the system should maintain some flexibility. However, this may give an impression of instability contrary to the desire of conservation interests, and so may lead to external

pressure on the park organisation to which it must adapt. This is feedback.

Park planning organisations operate in a dynamic environment such that park systems may pass through several states as the organisation responds to feedback. Organisations often attempt to reduce uncertainty by consultation with those thought most likely to generate feedback, either because they compete with it or because they are directly affected by decisions it makes. This has been described as attempting to achieve "bounded rationality" [10] and is relevant to what Ackoff [11] calls "purposeful systems" i.e., systems which select both ends and means (thus displaying 'will') and progress towards a distant and modifiable goal through shorter term attainable objectives. It is sometimes argued that this is "counter-intuitive" [12] because compromised objectives may divert the trajectory away from the long term goal. Some evidence of this can be seen in the results of the negotiations preceeding national park and countryside legislation in Great Britain.

A more specific aspect of counter-intuitive behaviour relates to the ability of a park system to provide the desired satisfaction of values for which it is established. This occurs where the elements of the system - in this case the different types of parks, though the same comment can apply to individual parks of any type - are treated in isolation. This is always a

danger in park system planning particularly where, as in Great Britain, different levels of government are responsible for different park-related goals (such as nature conservation, landscape conservation, and recreation), co-ordination is weak, and mutual support poor. The common result is that each organisation's attempt (usually under considerable pressure from its environment) to optimise its part of the system, conflicts with the viability of the system as a whole. That is to say, optimisation of sub-systems may lead to sub-optimisation of systems.

The author considers this is most problematical where predominance is given to one sub-system, as usually happens in the case of national parks (even to the extent of calling them "special parks"). One danger is that these parks will include adjustments that pressure groups have been able to introduce for their own benefit (in accordance with their own values) which may not accord with wider social values that define the goal of the whole system. Any optimising action by one group or individual will alter the context for decisions by others. This is an alteration of the state of the system. It should be emphasised that such 'adjustments' need not necessarily be changes; in fact, they are equally, if not more, likely to take the form of proscriptions against change in response to other forces in the system's environment. The problem is that these forces and their

agents may be much more diffuse and difficult to identify. They nevertheless are real, as park managers have found. The point is that ideally the regulatory function protects the management function from unanticipated feedback, but adjustments to sectional pressures render the system more vulnerable to some ultimate 'catastrophe'. In this sense a 'catastrophe' is an event which cannot be regulated by the established control mechanisms because it is the result of variance that, in being by-passed, has been stored, whereas it may have been assumed that it was eliminated.

Campbell's [13] recommended approach to research in recreational geography might help to avoid some of this 'catastrophic' tendency. He suggests that the order of approach used - the recreation area, the recreationist, the source of the market (city) - should be reversed to provide a new framework of thought. This would reduce the bias towards the resource magnetism of parks and increase attention to the factors in the urban environment which augment the motivation to "escape from the city" which was referred to in Chapter 2.

4.2 GOAL SATISFACTION

In a complex (turbulent [14]) environment in which the range of choice is very wide, or the information available for making a choice is so great that it cannot be absorbed, with the result that there is a high degree

of uncertainty, the 'natural' reaction might be to attempt to simplify the choice. The obvious way to do this is to reduce the difference between the known and the possible and that is done by reducing the contrast between satisfied and unsatisfied needs, or the conflict between achieved or achievable goals and desirable goals. In other words the goals are selected on the basis of satisficing and the ease with which they may be achieved, rather than on their approach to the ideal state. This is not entirely unsound in a complex environment provided that goals can be framed as stages.

There is, however, a problem with the process of simplifying goals to those which seem achievable and this is well seen in the conflict among recreation activities and between recreation and conservation. It is not unusual for recreation planning authorities to state their goals in highly democratic, egalitarian terms. For example, the legislated goals of the New York State-wide Recreation Plan are

> "to foster and promote a broad range of facilities and services to meet the growing needs for healthful leisure time activities for all citizens ... (and) to foster and promote recreation opportunities that are available and accessible to all segments of the population, creatively utilize available lands and facilities and serve to protect associated natural resources" [15].

Achievement of such high ideals is so difficult as to be virtually impossible. While it is recognised that goals

are end points towards which progress may be made but achievement is always incomplete, it is clear that the real goals are likely to be something less than those above and that the most potent modification is likely to be exclusion of the conflicting elements of the goal. Thus, it is not possible to provide opportunities for 'all segments of the population' because some segments make non-conforming demands. The bulk of this demand has to be of sufficient magnitude to cause severe stress before action is taken to provide opportunities. The case of off-road vehicles - particularly trail bikes - is typical. At very low levels of use trail bike activity may be tolerated, with some effort made to direct it towards areas of low conflict, but with increase in numbers and growing frequency of conflict, a common reaction is the ban. The trail bike rider is an outcast, excluded almost in-toto from the public recreation provision until the demand for places to ride becomes so strong that special provision is made. The real problem with the trail bike rider is that he does not conform to the image of a sympathetic participant in Nature, benefiting by his physical exertions while imposing no stress on the environment or other people within it. The goal of 'opportunities for all' is flattened out to 'opportunities for all who conform'. Exclusion of trail bike riding from National Parks reduces the amount of variance in the park environment. It is not suggested that this is wrong, because it does seem on the whole necessary, but it

should be recognised that a statement of egalitarian goals means inevitable conflict over non-conforming behaviour. This has its dangers in a society which in other respects emphasises the value of individuality.

It is suggested that the first reaction indicated that the motive of the trail bike rider - for that matter of the practitioner of any non-conforming activity in any sort of park - is not important, and the general judgment is that non-conforming behaviour indicates inferior values. But the assumption of inferior values carries with it a presumption against their satisfaction and this is an attitude (i.e., a propensity to behave) of intolerance. Interviews undertaken as part of a previous study (unpublished) revealed that many respondents felt that trail bike riders had "no rights to be in the national parks" and other back country. There was therefore an attempt to exclude a rapidly growing activity from the recreation environment. That it was predominantly an activity of male youth, is not without significance. The eventual recognition of the force of the demand, resulting in the move towards special areas was an adaptive response, but the prejudice remained. The trail bike must 'stay in its place'.

This point has been elaborated here for the purpose of suggesting that prejudicial allocation is a common response to environmental threat. The proposals made

for categories of parks are symptomatic of the attempt to simplify the park planning environment. Where categorization of the park is not possible the response is activity zoning. The problem with prejudicial separation of recreation activities has been the rate at which new and seemingly ever more virulent conflicts have arisen, e.g., skateboarding in the United Kingdom. The planning system is unable to respond at a sufficiently rapid rate to provide the places in which activities can be segregated, and the non-conforming nature of the activity mitigates against achievement of the desired degree of segregation.

It is not only the explosive growth of new activities that has led to problems of segregation. Even more pervasive has been the adoption, by ever increasing numbers, of recreation activities and accoutrements which, in small numbers, were tolerated and even encouraged. Skiing and motorised 'camping' are two particular examples of such activities which have rapidly increased in popularity and which make heavy demands on capital for investment and on management capability and which, because of their magnitude, conflict with other park priorities, but cannot be excluded and are difficult to control by segregation (zoning). Nevertheless, the trend is increasingly towards zoning as a means of emphasising the difference in demands on resources and the potential of activities for conflict and so to simplify decision making by planners and managers in respect of provision

and by visitors to parks in respect of participation. The author's major reservation about zoning is that, once formulated, there is a tendency to regard their boundaries as permanent and impermeable, to consider that zones should be inviolate. This reduces the potential for active adaptation to further changes in the environment, and increases the potential for conflict over goals. Zoning, in solving immediate problems, may inadvertently exacerbate others.

Zoning increases the specialisation of parts of a system. An increase in organisation is necessary to maintain integration of the specialised parts. There is danger in increasing specialisation that is not accompanied by increasing organisation because these both affect the structure of a system. Specialisation could be said to be an adaptive response to pressure on the system and represents behaviour which is goal-seeking. Organisation is a maintenance response, i.e., it represents a type of survival behaviour in which the system is maintained while adaptation progresses. The point is that it is necessary for changes to occur within parks in response to pressures on them from changes in recreational demand and from changes in other land-use activities, but there must be an organisation adequate to the task not only of identifying forces for change and the appropriate zoning or other specialisation in response, but also of keeping the system intact while such specialisation is implemented and tested.

4.3 RELATIONSHIPS WITHIN AND BETWEEN SYSTEM AND ENVIRONMENT

Three questions follow from this discussion:

(1) Is there then a better reaction to 'crisis' than the common responses (tactics) of exclusion or categorisation (zoning)?

(2) If there is does it involve rejection of these tactics?

(3) Are there any signs that the better course is or could be taken in park system planning?

The theoretical answer is suggested by Emery and Trists model of system L1 and environment L2 relationships [16]. They identify four types of interaction. L11 interactions occur within the system itself, while L12 interactions are output and L21 input between the system and the environment. L22 interactions denote activities within the environment - activities which may result in some change important to L21 interactions. This fourfold categorisation emphasises four aspects of systems - the system itself, its environment, and the feedback and response mechanisms. The use of zoning is primarily related to L11 and L21 events, but it is in the L12 adaptations that most hope (and perhaps danger) lies.

The Emery and Trist model can be used to show the importance of information in recreation planning. In summary, there are several categories of information which broadly correlate with the four types of relationship above.

Information relevant to L11 relationships is of two main classes:

(1) that which provides for knowledge of the parts of the recreation system and the relationships between them. Supply and demand studies of the STARPS [17], CORD [18] and TORPS [19] type are directed at this understanding, with varying degrees of success;

(2) that which provides knowledge of the effect of recreation on the resources and of the effect of competition between activities on the quality of the recreation experience.

Information of the L21 type also has two main forms:

(3) that which contributes to understanding of the competition from the environment for use of the resources also in demand for recreation, or the effect of other land uses on the quality of the recreation environment.

(4) that which contributes to understanding of the other organisations interacting

and competing with the planning system and affecting its progress toward achieving its goals.

Each of these is an area in which many studies have been undertaken. The information gained is used in decision-making in numerous ways, e.g., the reformulation of goals and objectives relevant to those goals; the definition of policies related to the order in which objectives are to be addressed and strategies related to those policies; the allocation of land and investment to control and amelioration of the effects of competing demands; and others less relevant to this study.

A much greater degree of attention should be paid to the L12 relationship, i.e., the effect of the system on its environment, again with two particular emphases and with the prime purpose of providing a basis for understanding of how the system might act to modify its environment. The two emphases are:

(1) on the recognition that other systems in the planning environment give to the goals for recreation and conservation;

(2) on the effect that recreation use, and conservation in particular, could have in improving the environment and so increasing its suitability for these uses - a reinforcement effect.

It is likely that effective adaptation through L12 relationships would require increased attention to L22 relationships, i.e., to forces within the environment itself so that the changes sought through L12 action would be reasonably predictable and damaging feedback avoided. The strategic objective would be to ensure that changes in the environment as a result of action by the system are such as to strengthen those attributes of the environment which prompt other systems in it to adapt in a way that adds to environmental quality.

4.4 EFFECT OF COMPETITION ON SYSTEM STRUCTURE

The recreation land-use system is but one of a number of land use systems which compete for 'space' in an environment where the forces for change, particularly on other systems, are very dynamic. In Great Britain the major competitor for land with a high recreation capability is farming, but farming is notoriously susceptible to fluctuations in world markets. These fluctuations have many causes, of which two are noted:

(1) they result from turbulence in the physical environment, notably droughts and floods, but disease induced crop failures or livestock mortality are also common; and

(2) they are the result of political attempts by competing systems to gain some advantage or to reduce internal disorder.

The effect of these forces on the recreation/conservation system can be potent. For example, an early response by a farmer may be to deal with an externally-generated pressure by removing internal pressures, such as by occupying and modifying space in which recreation and/or conservation have previously been comparatively unopposed or dominant.

The following are examples on a wider scale:

(1) The Kosciusko State Park is a large area of national recreation and conservation significance in the highlands of southern New South Wales. The rainfall at higher elevations is less unreliable than at adjacent lower levels, particularly in the east on the adjacent Monaro tableland, where a severe rainshadow occurs. A dry winter and spring has serious implications for pasture growth [20]. In years of severe drought the rich alpine meadows rarely suffer and considerable pressure mounts from graziers for the use of these pastures. This is resisted, it being claimed that only native herbivores should occupy the Park because of the scientific and aesthetic importance of the alpine meadows and their susceptibility to erosion under an 'unnatural' grazing regime. There are several possible

responses, including the one sometimes taken of illegal occupation, but on the whole the resistance by the park authorities has been successful. This has led to growth of a new movement whose aim is to change the concept of the New South Wales National Parks and Wildlife Service which administers Kosciusko to something as near as possible to the Countryside Commission. Though the most aggressively-used argument is that the park would be better managed by a local committee, the underlying aim is to establish agriculture as a use of the park in the same fashion as in English National Parks. Thus, there is pressure not only on the resources and values of the Park but also on the Planning System.

(2) In Kosciusko and other park areas to the east and north of the Monaro tableland management policies are directed at restoring a 'natural' ecosystem (in so far as this is possible). This objective includes allowing the recovery of populations of the Dingo (a dog naturalised in Australia for so many thousands of years it is considered native), and also a desire for a more natural fire regime. Both policies are 'threatening' to adjacent farm and forestry operations and these have

forced modification of National Park management strategies. Very similar problems occur in North American National Parks, (and must inevitably accompany any further moves to re-introduce the wolf in Scotland). The pressures on park management policies increase in proportion to the difficulty being experienced by adjacent or competing land uses. Parks are, e.g., seen as sources of infestation by vermin and noxious weeds.

(3) The most notable of recent park conflicts in Great Britain have been over conversion of moorland, water supply reservoirs, construction of trunk roads and motorways and mineral extraction in National Parks. All these represent conflicts between 'hard' values of economic production and 'soft' values of conservation of wildlife and scenery. They are accompanied by calls from the supporters of parks for the National Park Planning Authorities to be re-organised with greater powers to enforce presumptions against development and exploitation, and to counteract resistance from other quarters. The organisational response is commonly to attempt to reach agreement before action is undertaken. While this may reduce uncertainty in the

> environment of the planning system, the effect on the internal value of the park (system) - i.e., on its ability to meet the needs which it exists to serve - is highly unpredictable. This problem is referred to again throughout the case study.

The three examples above illustrate the tendency to focus on issues. This carries the risk of concentrating on peripheral conservation problems. Even greater uncertainty may result from concentration on sectoral problems (like conversion of moorland) which appear large, close and urgent. The environmentalist viewpoint, as restated at the beginning of this chapter, would suggest that these sectoral problems are a symptom of a much larger problem. (In the case of conservation of moorland this might be suggested as worldwide agricultural disequilibrium).

The potential for addressing problems at a wider, if not global scale, is limited by the structure of the control institutions. These can be incapable of a sufficiently rapid reaction, let alone response, to total situations precisely because they are geared to sectoral problems. In addition, organisations have their own interest in survival and can prove resistant to changes which might equip them to deal with a problem beyond its sectoral context and in the long term, rather than by

crisis management in the short term. The strategic issue for the control organisation would seem to be what sort of mechanisms should be built into the system (in this case, park system) to enable the management of conflict. It is not suggested that all conflict must be eliminated, that being more nearly a conservationist view. Rather it is suggested that a certain amount of potential for conflict is acceptable and necessary because it acts as negative feedback. Unreliability (or uncertainty) decreases when the organisation's knowledge of what is acceptable conflict increases along with its ability to manage that conflict. The planning system needs to ensure that uncertainties in the land-use system are 'mapped' within itself, and do not remain latent in the process of decision making. Ashby's [21] "law of requisite variety" states that effective regulation of a system requires that the variety in the control device must be at least equal to that of the disturbances [22]. This suggests that a system may have a certain amount of redundancy, e.g., the parts of a park system would possess capability to service different needs.

The argument has now returned to the issue of the structure of the park system itself, and it is suggested that there are two alternative approaches to achieving a degree of redundancy in the system. These are redundancy of parts and redundancy of functions. The first is mechanistic and may be less capable of adaptation to changing demands. The second is vital, i.e., it has more

flexibility and a capacity for automatic regulation. It is therefore more adaptable to both complexity and uncertainty in the environment, and so provides a greater potential for management of conflict to the control organisation. This leads to the subject of carrying capacity, but before this is discussed, some additional background on park systems is provided in this chapter, while in the next the nature of some recreation/conservation conflicts is illustrated through the history of proposals for access to countryside and national parks in Great Britain.

B. GOALS FOR RECREATION AND CONSERVATION AS A FACTOR OF PARK SYSTEMS

4.5 THE BASIS OF PARK SYSTEMS AND THE CANADIAN EXAMPLE

The response to incompatibility in the aims of authorities required to provide for both recreation and conservation has often been to attempt to develop 'park systems'. The Countryside Commission for Scotland has both responsibilities and has put forward its own proposal, which is summarised below.

The basis for establishment of park systems is not wholly clear. One approach, which is well developed in Canada, is to attempt to obtain designation as national parks for areas representative of all important biological and physical environments. Parks Canada has identified 39 terrestrial natural regions [23]. Eighteen do not yet

have any representation in the Park System and all but five of the others are considered to have only partial representation of their significant elements. Thus, despite having what is claimed to be one of the largest and most diverse networks of parks in the world, Canada is a long way short of having the full requirements of its National Park System.

The Parks Canada approach to deterioration of resources or conflict between goals is, wherever possible, to apply a zoning policy so that high-impact activities are either restricted to small parts of the parks or excluded altogether. An attempt is made to cater for some demand for such activities through the "Byways and Special Places Program", now called "Agreements for Recreation and Conservation" [24].

Any attempt to develop a park system on such lines raises fundamental questions which are difficult to answer, e.g., how big should a park be if it is to be conserved in its natural state?; how much diversity should be incorporated into the park?; and what activities are compatible with the conservation goals of the park? There always is the danger that the urgency of obtaining representation may lead to poorly planned reservation of large, disaggregated and exceedingly complex park systems quite beyond the capability of the Park Authority to develop and manage systematically. Systematic management presupposes some ability to predict the impact

of different intensities of various activities. Desire to obtain this predictive ability is the reason behind many of the complicated resource and/or environmental analyses carried out by Park Authorities.

Various methods of environmental analysis have been used. These could be studied from two points of view:

(1) how is environmental analysis used to select potential parks and to identify zones within them, i.e., to establish that an area warrants special protected status by being declared a park in the first place and a conservation oriented zone in the second;

(2) how is environmental analysis used to assess the carrying capacity of an area (or system) once dedicated.

It is not possible, however desirable, to discuss in detail the numerous methods of evaluating park and recreation resources now in use, but some of the important underlying principles can be noted.

Four "variable criteria" are considered generally applicable to the classification of recreation resources:

(1) The relative significance of the resource. This, it is here suggested, is the source of its 'magnetism' or ability to attract visitors. The attractive power of resources is a developing field of study [25].

(2) The degree of permissible manipulation of the

'environment', given the significance determined above. It should be noted that significance can mean representativeness (the degree to which an area is a typical example of an identified 'environment', ecosystem, or habitat) or uniqueness. Either can provide justification for inclusion in a park system. Significance can be viewed from another perspective, that if the loss of a resource or site, or the destruction of some attribute or feature would adversely affect natural or cultural heritage or diversity, or be of concern to people beyond the immediate geographical region, then it is likely to be of more than local significance. This is a viewpoint particularly appropriate to change within established national parks, particularly in Great Britain.

(3) The accessibility of a resource relative to existing and potential demand. Both the 'gravity' aspects of time and distance and 'magnetism' aspect of attractivity are relevant.

(4) The potential either to enhance the intrinsic variety of the park system or to expand the supply of existing components.

For the purpose of this study an 'element' of a system is a particular type of individual and may be generic, e.g., a country park as one type of park. A 'component' is a particular type of attribute which though specific is not necessarily appropriate to any particular element, e.g., a ski-slope or an alpine meadow.

In regard to national parks (or their equivalent)

significance is of more importance than accessibility, and the potential to enhance intrinsic diversity more important than the potential to reinforce existing components. However, it then is necessary for the 'lower' levels of the system to provide accessible and complementary resources, and the national park element is likely to be under considerable stress if the National Park Authority is unable, or is unsupported by attempts by Central Government, to encourage lower level authorities to make adequate provision.

It seems appropriate to raise here one point about the fourth of the above criteria which is relevant to the forthcoming discussion of zoning and carrying capacity. It is feasible that, if an area is added to a park system on the grounds that it is a resource which increases the diversity of the system, its conservation status could be set much higher than if it were added on the grounds of reinforcement. However, reinforcement should not only permit but also promote a review of the conservation status of all similar components of a system. The status could be adjusted on a scale related to the second criterion - the permissible level of 'environmental manipulation' in the light of the relationship between design and carrying capacity.

4.6 CONSTRAINTS ON SELECTION OF PARKS ON THE BASIS OF RESOURCE EVALUATION

In between the decision that an area is worthy of

designation and the assessment of its carrying capacity lie the procedures by which designation is obtained. The development of any park system, particularly as proposed in Scotland, is critically dependent on the negotiations for acquisition and/or access. This means that the final distribution of parkland only in part reflects the environmental analysis carried out by park planners. On the whole it will depend on how and where the planning authorities perceive recreation needs and conflicts and on the process by which they attempt to negotiate a systematic provision to meet recreation and conservation needs while keeping land-use conflict at an acceptable level.

The procedure is greatly complicated in Scotland because its Countryside Commission is not a park authority. It does not have a central planning role or the power to acquire and hold land for the purpose of national or any other sort of parks, though it may assist local authorities with grant for the provision of recreation opportunity either through the development of country parks, or through rights of public access. As in England and Wales, parks of national, or even regional significance will inevitably contain large areas of privately-owned land. That requires negotiation with the owners of the land or of other rights in respect to it, such as sporting rights. Though the Countryside Commission might identify areas it would wish to see given park status -among other reasons so that systematic

management could be carried out - the final location and boundaries of Scottish parks will be determined by the outcome of negotiations. This involves the resolution of conflicts.

4.7 THE PROPOSAL FOR A PARK SYSTEM FOR SCOTLAND

In December, 1974 the Countryside Commission for Scotland (CCS) published a consultative document entitled "A Park System for Scotland" [26] . The Commission's dual responsibility, under the Countryside Scotland Act, 1967 [27] is for the provision, development and improvement of facilities for the enjoyment of the Scottish countryside and for the conservation and enhancement of its natural beauty and amenity. The Commission's aim, as outlined in the Park System document, is to provide opportunities for recreation in a systematic way because of the frequent incompatibility of its goals. A hierarchy of parks is proposed, with facilities within a park related to each other so as to achieve objectives relevant to that park's place in the hierarchy. (The Commission prefers not to use the word "hierarchy". This issue is referred to in Chapter 8 p.318. The use of the word is maintained here because many attributes of the proposed "system" are hierarchical).

The first element is the urban park which, except in rare cases, occurs outwith officially-designated countryside and so outwith the remit of the Countryside

Commission. It is not clear whether the Commission has in mind only the major urban park, or considers all informal open spaces even if these are not given the name neighbourhood parks. The point is academic in any event because the Commission proposes no criteria for the location, characteristics, management and so on, of urban parks and has no powers in respect of them. Further reference is made later to the difficulty of designing a system in the absence of consideration of one of its elements. Hierarchy is therefore a more appropriate term.

The second element is the country park, of which there are ten in Scotland, with several more awaiting confirmation. Country parks are ostensibly located so as to afford convenient opportunities for people to "enjoy a wide range of open air leisure pursuits, both active and passive, in pleasant surroundings of a predominantly rural character" [28]. Their size will normally range from 10 to 400 hectares, and their use is expected to be intensive, and primarily devoted to informal recreation.

The third element is the regional park. These are to be larger and more diverse in ownership and character, giving access to a wide variety of countryside at varying intensities of use and serving a more widespread public. Their use will principally be for agriculture, forestry, or water catchment, or combinations of these, with

recreation as an overlay. They will operate as a reserve of land providing potential for more intensive development as and when the need arises.

The fourth element is the special park. These are proposed for areas with high national significance because of their natural beauty or amenity. Such areas are likely to encounter increasingly heavy pressure for recreational use and major conflict with their conservation aims. They would require Special Park Authorities for their management, with a high proportion of the cost met from Central Government funds.

As yet, neither regional nor special parks have any legal status. This is scheduled to follow discussion of "a number of matters which require further examination" between the Secretary of State for Scotland, CCS, and the Convention of Scottish Local Authorities [29]. These discussions are not complete and the Commission is attempting to encourage the Secretary of State to approve the framing of legislation as a matter of urgency (see Chapter 8 pp. 389).

4.8 DATA COLLECTION FOR SYSTEMATIC PLANNING

The Commission's role in outdoor recreation is mainly advisory and promotional while "the responsibility for giving practical effect to conservation policies and for creating new provisions falls mainly to the local

authorities" [30]. In accordance with their role CCS, together with three other major national bodies - the Scottish Tourist Board, Forestry Commission and Scottish Sports Council but not, regrettably, the Scottish Council for the Arts or the Nature Conservancy Council - have jointly commissioned a set of studies called the Scottish Tourism and Recreation Planning Studies (STARPS). Their purpose is to "assist in the evolution (sic) of outline strategies for sport, outdoor recreation, and tourism for each regional authority in Scotland, co-ordinated within a broad national framework" [31]. The agencies recognise three fundamental aims which underlie strategic planning:

(1) assistance to regional economies;

(2) enhancement of the quality of life; and

(3) protection of the environment.

The latter two are the main concern here, though (as has been shown in Chapter 2, the implied limitation of 'environment' to the physical and physiological conditions of existence is rejected.

On the basis of the above three aims, the STARPS project raises four policy issues:

(1) for whom should provision be made?;

(2) what should be provided and where?;

(3) what standard of provision should be aimed for?; and

(4) how far resources beyond those 'earmarked' by public bodies for recreation can be considered? [32].

Some alternative issues towards which STARPS might have been designed to provide a basis for decision-making, are identified on pages 197-198.

At this juncture it seems desirable to reflect on the purposes studies such as STARPS may be thought to serve in systematic planning. The first point to make is that the information is sought to provide a background for decision-making in a situation where the planners seem to feel that action is necessary to avoid chaos. Though the problem may be seen as 'wear and tear on natural resources' the underlying problem seems to be that changes in the allocation of land for recreation and conservation have not kept pace with economic and social change. The result has been difficulty in managing public use of land and in planning effectively for it. One reason for this has been that the structure of decision-making has itself not kept pace with change. This was the basic reason for the reorganisation of local government in Great Britain, the Scottish part of which was implemented in 1975. Prior to reorganisation, as the Wheatley Commission [33] observed, many local authorities were too small, and this resulted in duplication of facilities, high costs, and cumbersome and conflict ridden joint management, where co-operation was needed. Re-organisation was designed to counter this, but in the area of recreation and leisure planning seems to have failed. Responsibilities have been divided

between Regional and District Councils, with national agencies and several Departments of the Scottish Office having sometimes overlapping authority.

C. OBJECTIVES AT DIFFERENT LEVELS OF GOVERNMENT

4.9 THE IMPLICATION OF NORTH AMERICAN NATIONAL SURVEYS

This is raised here because it is to be suggested that a programme such as STARPS, designed to provide information for systematic recreation and tourism planning, might have given greater credence to one of the main criticisms of a similar study carried out in Canada (CORD), namely that differing objectives and political orientations within the provinces were not recognised and that "it is really questionable if there could ever be mutual advantage in trying to reconcile Federal and Provincial objectives ..." [34]. Parks Canada's own assessment of that study was that it did not indicate overall current or future needs for outdoor recreation facilities and programmes in Canada, and so suggested no programmes to meet deficiencies or to encourage use of under-utilised opportunities. The concerns which gave rise to the CORD [35] studies were similar to those behind STARPS, namely:

(1) concern at the inadequate factual basis for planning and policy-making;

(2) apprehension at the implications of rapid growth in park use;

(3) belief that estimates of future use would be needed for effective planning of facilities and the expansion of national and provincial park systems;

(4) desire for some indication of expected use of new facilities.

Thus a study of demand was thought to be the most pressing need, because it was assumed that relating it to supply would enable predictive model building (by allowing prediction of numbers of users an area would generate under various policy alternatives). It was found that the surveys conducted were not sufficiently specific to permit such sophistication, nor was there any policy which would have permitted more precise definition of objectives conforming to different perspectives in the Provinces [36]. Similarly, in relation to a Bureau of Outdoor Recreation study of needs, one observer concluded

> "such surveys do not begin to answer the real gut questions relating to : what kinds of new recreation? where do you put it? how big should something be? how should it relate to where people live? or whose responsibility is it to supply such facilities?" [37].

The implication for the STARPS programme and the Park System for Scotland is that there is considerable doubt whether the general policy and standards of the Countryside Commission for Scotland will find matching priorities at local government level, yet the composition of the Park System depends on initiatives by Local

Authorities.

Both British Columbia and Alberta emphasised that the modelling carried out in the CORD study "was of little relevance to them in formulating policies and plans for their own park systems". Ontario found it necessary to conduct further detailed surveys to supplement and in many respects replace the CORD surveys [38]. None of these provinces has approached the development of its park system in quite the same way as Parks Canada (i.e., by incorporation of representative 'environments') or in the way that it was thought that CORD would promote (i.e., by adjusting supply to demand in a systematic manner which allowed for substitution and for using design to increase attractiveness so as to absorb surplus demand).

4.10 ALBERTA PROVINCIAL PARKS - SOME ISSUES AND THEIR IMPLICATION

As has been mentioned, Parks Canada is attempting to incorporate within its park system representative examples of identified terrestrial and marine natural regions. It must match this goal with the problems arising from the impact of recreation on the incorporated ecosystems. National Park policy in Canada has shifted from encouragement of visitors for their personal benefit and for the 'multiplier' benefits of tourism, to a predominant concern with natural resources and minimising human impact upon them. There are numerous problems, apart

from financial cost, of obtaining the desired representation in the system. Not the least of these are, first, that in the more settled areas there are few suitable remnants of the ecosystems that preceded European settlement, and second that provincial governments are unwilling to transfer ownership to the federal government and with it all rights to the exploitation of timber and minerals. Also, most provinces are attempting to develop their own park systems.

The Federal-Provincial Parks Conference proposed a rationale for the development of park system goals and objectives. This was adopted in Alberta [39]. The steps are:

(1) define agency objectives and relate to government policy;
(2) conduct cost-benefit analysis of all existing and proposed programmes;
(3) link planning to the budgetary process through annual review;
(4) set standards for the measurement of performance; and
(5) provide a systematic method for integration of the first four steps to give optimum allocation of resources and management [40].

The two steps most relevant to issues raised in this study are the first and fourth. On the first the importance of

being able to define goals and objectives is clear. Here it may be noted that many park authorities have experience with defining biological and historical conservation objectives because these are easier to identify and understand, but little experience with the definition of objectives related to the park user which may be tested for achievement. Policy analysis may make its major contribution not in the matter of optimisation and the evaluation of options but rather in the clarification of issues and the formulation and development of objectives and options. Rowen [41] suggests that the first step is critical because those responsible for the choice of policies often do not have a clear concept of what needs to be done, are not in possession of the relevant facts, do not know the alternatives available and do not know the consequences of choosing a particular course of action. In this situation policy analysis helps to provide conceptual frameworks for relating means to ends and thinking about ends, and for identifying and inventing technical alternatives. In this way it is heuristic, the participants learning rather than (merely) receiving inputs to some 'objective function' (or functions). If goals are not specified it may be difficult, if not impossible, to construct an objective function against which performance can be measured. This returns us to the previous point about the lack of congruence between goals of the authorities having responsibilities for different levels of the system. It is not suggested that goals

must be identical, rather that they must be complementary. This may require analysis to ensure that short-term goals (e.g. goals for growth) do not prejudice long-term goals (e.g. goals for stability) and that regional goals (e.g., goals for local employment) are consistent with national goals (e.g., goals for optimal national development) [42]. The author considers that optima are unreliable standards for the measurement of performance, firstly because it is difficult to see how there can be agreement about what is an 'optimum standard'; secondly because there is no guarantee that values will not change or that succeeding generations will rank values in the same order of priority; and thirdly because it seems more realistic to focus on improvements specific to an objective (rather than optima general to a goal). By this is meant improvement in the functional suitability of the element and/or system for the particular life-style or life-form to which the objective refers.

These considerations raise the question as to whether the philosophy behind a provincial or state park system should be distinguishable from that in the National Park System of which it is a component. The intuitive answer is that any difference should be one of emphasis rather than philosophy, but there are a number of complicating factors which may apply to park authorities in general and which can be illustrated by the example of Alberta.

For a considerable time the existence of National Parks in the Rocky Mountains meant that Alberta had little need for resource-based parks. At the same time the National Parks were being developed with considerable attention to tourism, an emphasis which is now a source of difficult problems for Parks Canada and to some degree eschewed by that agency. Growth in demand for recreation and increasing pressure on resources for competing uses also changed the primary emphasis of Provincial Parks in Alberta from regional recreation opportunities to the nature of the resource base of the Province as a whole. The philosophy of the two levels therefore has converged though the Province continues to place greater emphasis on location relative to source of demand compared to the national level attention to intrinsic value or significance of resources irrespective of location. The danger with convergent philosophies lies not so much in the overlapping of provision, but rather in that a particular type, or types, of provision will be overemphasised. It seems proper that national park agencies should place greatest emphasis on criteria related to the relative significance of resources, and it can fairly be assumed that nationally significant resources will have strong magnetism particularly where inclusion in the system is on the grounds of uniqueness. If provision is inadequate at more local levels the magnetism of the national resources inevitably leads to inappropriate intensity and types of use.

National significance by virtue of uniqueness or outstanding character has, in the past, been the most common criterion for National Park status. In Canada in particular, significance has increasingly acquired the meaning "representativeness" and it is in this context that provincial and national systems are most likely to adopt identical emphasis. However, it is probable that provincial, regional and local agencies will take much greater cognizance of the shortfalls in the national system than vice versa, and a narrow national perspective in Scotland could give rise to major problems. Attention at national level to the relative significance of resources is viable if, and only if, the lower levels of the hierarchy are attending to provision related to accessibility to demand and to resources over which environmental alteration greater than that now permissable in nationally-significant areas can be exercised. National governments appear to have little or no ability to require lower levels of administration to attend to provision for user-oriented parks in either Canada or Great Britain, though some progress in this direction was made through the Bureau of Outdoor Recreation programme in the United States which required states to develop comprehensive outdoor recreation plans in order to obtain special funding. That a specialised recreation agency was needed to achieve this degree of integration is of considerable significance.

The danger of neglect of lower-level objectives by

national agencies can be seen in the Scottish proposal. Little progress has been made towards systematic provision because the roles of the various agencies in the administrative strata are not clearly defined. Admittedly this is no easier in Great Britain than in Canada where 70% of agencies providing for leisure do not have a statutory requirement to do so, i.e., they operate under a tertiary mandate. It can be difficult to identify the area and degree of involvement of these agencies. There are mechanisms for interagency liaison, consultation and co-ordination, mostly at management and technical levels, but these can have severe limitations because of narrow and sectoral interest. For example, the Province of Alberta has set up a "formal co-ordinating committee with broad policy and directive powers" [43] but the tertiary mandate of many of the agencies concerned has made it hard for the committee to function. Particular problems common in such cases include:

(1) though duplication may be avoided, conflict may occur as to who has the responsibility for particular types of provision (e.g., should the park or forest service supply campsites in forest reserves);

(2) it can prove difficult to find working mechanisms for the allocation of responsibility for management of facilities relevant to the function of one agency located in areas under the

jurisdiction of another;

(3) agencies may jealously guard their own assumed responsibilities and resist attempts at co-ordination which would involve loss of staff, land, or powers relevant to land-use planning; and

(4) over-specialised working groups at both agency and inter-agency levels may leave gaps in provision or protection.

Aware of such problems, the Recreation, Parks and Wildlife Department in Alberta has set up both a Recreation Development Division and a Parks Division. In discussion with the author, an officer of the Department observed that the former is more keenly aware of 'people' and 'social' needs because of its variety of local contacts than is the Parks Division and is better able to co-ordinate the many facets of a recreational issue than any other single agency. The links with regional and municipal government which allow it to assist in the acquisition of locally valuable recreation sites give it an influential role in open space provision complementary to that at Provincial level [44].

The significant argument in support of this special role is that the Provincial and National Parks cannot and should not attempt to create the land base for a full range of recreation opportunities, and that better local provision permits those 'upper' levels to attend to appropriate standards of environmental quality and

significance. The alternative seems to be a continuation of "the current picture of unsatisfied demands and satiety side by side - a capricious patchwork of facilities whose performance ... measured against needs ... is melancholy [45] .

4.11 PARALLELS BETWEEN SPECIFIC ISSUES IN OVERLAPPING OR ILL-DEFINED PRIORITIES IN SCOTLAND AND CANADA

The result of lack of clearly defined goals and co-ordinated priorities can be seen in the matter of country Park provision in the Midlothian District of Lothian Region where, in the absence of systematic national guidelines about the location of parks, capability of resources, and demand for particular facilities, the District Council has proposed two country parks the major justifications for which are, first, that the Council already had responsibility for the areas, and second that both have some merit as conservation areas. Much more critical recreational pressures apply adjacent to areas of greater population, but the conservation emphasis of the national level has been adopted by the District, despite constant public demands for more recreationally-oriented provision.

Here a major conceptual difficulty in the course of attempts at systems planning for recreation and conservation is exposed. It is fundamental to the systems approach that there should be effective integration of

policy and co-ordination of management. The problem is whether a single planning organisation will be able to achieve this by exercising a central guidance role, which also raises the question of the degree of power that organisation should have not merely to formulate policy but also to implement it. There is the danger, as noted by Simon et al. that "almost any government agency that is entrusted with a goal and with very few and ineffective means for achieving that goal is likely to be called a 'planning' agency [46]. In the Scottish context this suggests that it will be necessary for the Countryside Commission to acquire through new legislation the 'machinery' capable of providing genuine guidance to the major changes necessary to achieve a viable Park System in Scotland.

There is a valid alternative point of view that a single controlling agency is not the best means of achieving systematic provision because it may prejudice the adoption of responsibilities by other agencies and be continually frustrated by their natural desire to hold on to what is "their own". This is a more supportable view where there are a large number of agencies which provide for recreation, open space and conservation land, under a tertiary mandate. This seems less relevant in Scotland where, apart from the Forestry Commission holdings, little land is owned by crown agencies. Furthermore, some important holding agencies (such as the National Coal Board) do little to

encourage or plan for recreational use of their holdings. In contrast, the British Columbia Land Commission identified 75 forms of open space provision in that Province, of which 15 were under Municipal or Regional Government, 21 under Provincial Government, involving 12 departments or agencies, and 18 under Federal Government involving 7 departments or agencies. Only 6 did not involve government or public agencies, the remainder being maintained with government assistance other than purchase [47]. Creation of a single department to bring together all functions of Government relating to resources is clearly less viable in the latter situation.

The problem is how to match the undoubted ability of an organisation such as the Countryside Commission for Scotland to exercise responsive development control, make elegant adjustments to changing pressures and mediate in conflicts at an institutional or public level, with the need for some organisation with the power to drive a system through a desired trajectory. There are certain obvious prerequisites to such a capacity, notably that the roles of the various agencies must be clearly defined and related to government policy. This point is raised here because of the difficulties which can be involved in attempts to co-ordinate responsibility or place control in the hands of a single agency or department. For example, in Alberta several provincial departments have recreation and conservation roles which

impinge on that of the Parks Branch of the Recreation, Parks and Wildlife Department. Two of the most important are Energy and Natural Resources, and Municipal Affairs.

The co-ordination of Recreation, Parks and Wildlife with Energy and National Resources is particularly critical. Its Forest Service administers approximately 100 recreation areas in important locations, normally with a somewhat lower level of development than Provincial Parks but likely to develop to the same degree. The suggestion that these areas should be taken over by the Park Service raises the question of their management in concert with the overall forest management policy. The implication for systematic park and recreation planning in the Province also applies to Scotland where Forest Parks and other forest recreation facilities clearly should be incorporated into systems planning. While the Forestry Commission recognises the need for co-operation with the Countryside Commission, recreation considerations are only now being considered in the early stages of acquisition and establishment of forests, and discussions with officers of the Forestry Commission confirmed that the forests are seen by them as individual recreation attractions rather than as elements of a planned system.

In the continuing debate about transfer of Forest Service Recreation Areas to the Parks Authority in Alberta, four criteria would be important if such a

decision were made in regard to some areas. These are:

(1) whether the area is close to sources of demand;

(2) whether it can conveniently be administered by park staff;

(3) whether it has actual or potential development as a significant supply; and

(4) whether its resource base is significant at the Provincial level [48].

One way of rationalising this problem which would seem to have considerable potential in Scotland where the Forestry Commission now has statutory duty to provide recreational facilities, is to allocate a certain proportion of provision to publicly-owned forests. The role of the Forestry Commission in Scotland is discussed in more detail elsewhere, but it is clear that forests may come to be regarded, as they are in Alberta, as a strategic land bank for future Provincial (in Scotland, Regional) Parks. In Alberta this function is also exercised under the Public Lands Act, and this is the second area in which co-ordination is critical and overlaps other Departments.

The Lands Division recognises three major categories of land in the Province labelled Green, Yellow and White which are respectively:

(1) multiple use forest areas to remain largely in Provincial ownership;

(2) primarily potential agricultural land, available for disposition; and

(3) primarily settled and agricultural land.

With changing structure of agricultural land use some White Land reverts to pasture or otherwise goes out of production or becomes available for purchase. The Provincial Parks Department is conscious that the prairie landscape is under-represented at both Provincial and National level and sees some opportunity of obtaining parklands by acquisition. The Department of Municipal Affairs is the appropriate authority to notify Parks Branch in such cases but this is not occurring to the satisfaction of Parks Branch which "only learns of some opportunities" [49] . (personal communication)

Overlapping functions also cause some concern in relation to reserves with a specific ecological purpose, in which Parks Branch, the Resource Evaluation and Planning Division of Energy and Natural Resources, and the Department of the Environment are involved. Ecological reserves are such a complicated area of concern in Canadian Provinces and in Britain that a detailed discussion is precluded by the limitation on length in this thesis. Some aspects of it are referred to in the discussion of other issues.

4.12 ISSUES UNDERLYING CONFLICTS

It follows from the author's suggestion (on p.165 in this Chapter) that a certain amount of conflict is

both necessary and desirable (because it is a negative feedback mechanism) that the test of system stability is whether potential for disturbances within the system (either internal or coming from its environment) is being maintained at an acceptable level. This presupposes that the sensitive variables will have been isolated to give some indication of what type of control is necessary, of how, and where it should be exercised, and of what expertise is required by those who seek to exercise the control. In park system planning much attention is given to ecological relationships, but the values of recreationists, conservationists and other interests in the land are at least equally important. As a result, the central issue may be the conception of these various interests - the planners and managers included - of the meaning of the word "park", and the reasons parks are 'needed'.

There has been much conflict over the use of the word "park", the most common argument against being that it leads to a public expectation of complete freedom of access. The fear is raised that an assumption of public ownership, mainly arising from the tenure of urban parks and American National Parks, leads to lack of responsibility in the behaviour of visitors and generates problems for farmers and 'sportsmen'. The basic objection is to the idea that any visitor should feel free to walk or do whatever else pleases him, wherever and whenever he chooses, in an area where

natural beauty, outstanding features, and/or 'man's' work of design give some special qualities which justify a special title and subjection of purely economic interests in the land.

A contrary interpretation is suggested by Revelle. Though his remark referred to city parks it is not irrelevant to other types because what is being discussed here is the interpretation which people place on the word 'park' and most people, being urban, are likely to be most familiar with city parks. Revelle considered that:

> "the very word park raises in most minds the image of a formal area, nearly empty or partly filled with rather disreputable characters, and adorned by walks, benches, and 'Keep off the Grass' signs". He suggests that "the image of a park should be one of variety, informality and happy activity" [50].

No study is known that effectively analyses the meaning of the word 'park', but it is clear that the interpretation of free accessibility must be common among the objectors or they would not so greatly fear its being held by others. There are several alternative or additional interpretations. The most obvious of these are:

(1) a reserve or reservation for a specific purpose, usually related to conservation;

(2) a playground or sportsground offering specialised facilities or opportunities;

(3) a special-purpose area for the display and/or maintenance of animal populations (e.g., Safari parks, zoos); and

(4) urban areas which may have a green and spacious character.

Only the connotation of a park as a playground could realistically support the interpretation as a publicly-owned open area over which access is unrestricted in time and space. In fact, very few such parks of any extent are likely to be totally devoted to facilities or to freely available spaces. Most will have part of their area devoted to gardens and often to lawns over which the public as a whole readily accepts that access will be restricted or even forbidden. The fact that the representatives of landowners (e.g., the Scottish Landowners Federation) frequently state that they do not, in normal circumstances, attempt to restrict responsible access over upland suggests that the basic objection is not to access in general. Indeed, there appears to be no objection to the National Trust policy that, except where a particular purpose would be adversely affected, visitors are entitled to unrestricted access over Trust properties (e.g., Ben Lawers), and except where the Trust itself has encouraged the designation, these areas are not known to the public as 'parks'. There are therefore inadequate grounds for suggesting either that parks are seen by the public as areas in which restriction on access

is improper, or that areas in which access is unrestricted are properly termed 'parks', and conceived as such by the public at large. The true basis for objection appears to be fear of loss of control and, with an even greater level of concern, loss of rights over land, particularly the loss of ownership.

The argument that designation inevitably leads to explosive demand also may be questioned, particularly in the British context where, rather than incorporating areas because of their capacity to support intensive recreation in a non-urban environment or their unique, rare, endangered or representative ecological or geological features, the parks incorporate areas because of the quality of their scenery. In view of the independent reputation of the Lake District, or even Exmoor and Dartmoor, and the explosion in the potential number of visitors as a result of increased personal mobility, it is not unreasonable to suggest that most of the present pressure from visitors on those areas would have occurred irrespective of designation as National Parks. Indeed, there is evidence from a number of studies (see, e.g., Brecon Beacons N.P. Plan)[51] that a significant proportion of visitors are not aware of the National Park status of the area. Far from leading to an explosion in demand, it seems that designation as a National Park has coincided with and, because of the management which has followed designation, lessened the adverse effects of increased demand.

It follows that the most sustainable argument against the Park System in Scotland may be that Special and Regional Parks are not warranted because of the low pressure of demand. Even this argument may be seriously questioned(and with good reason) by those who contend that it is wise to treat a problem before it becomes serious. Justification for the Park System then would rest on its proponents' ability to establish:

(a) that even without designation, pressures of demand will increase to a scale, if not equivalent to that of national parks elsewhere, at least requiring systematic planning and management; and

(b) that the proposed Park System is the best, if not the only, way to achieve this systematic approach.

It can be suggested that the most appropriate place in which to search for evidence to support the two points above would be the Scottish Tourism and Recreation Planning Studies. However, though the full results are not available at the time of writing, there is considerable doubt that STARPS will supply information relevant to the most crucial issues. It is suggested that these issues include:

(1) what is the expected rate (number of people per specified time period) at which non-participant members of the public become potential users? Two

factors would seem to be most important:

(a) the rate of increase in per capita car ownership;

(b) the rate of development of motivation for countryside recreation.

(2) what is the expected rate at which potential users will become actual users?

It may, in the long term be more appropriate to divide actual use into frequent and infrequent use, and to rephrase this enquiry in the form:

(2a) what is the expected rate at which potential users will become casual or periodic users?; and

(2b) what is the expected rate at which occasional users will become regular users?

Consideration of carrying capacity entails two further questions in the form:

(3) what predictions can be made about the potential for regular users to become occasional or former users?; and

(4) what are the likely sources and issues of conflict, how will they be expressed, what adjustments will be necessary to resolve conflicts, and what will be their effect on the structure of the system?

This thesis now gives an account of events related

to the fourth question in the development of the access and national park issues in Great Britain leading up to the Countryside Commission for Scotland's park system proposal. The issues raised in response to that proposal are the subject of later chapters.

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CHAPTER 5 : NATIONAL PARKS AND ACCESS TO THE COUNTRYSIDE

5.1 INTRODUCTION

In this chapter some aspects of the concern to secure public access to the British countryside are considered. The emphasis of this concern changed over the years in response to changes in social conditions and a growing preoccupation with conservation. Two aspects of concern with conservation were most significant, the conservation of landscape and amenity and Nature conservation. These concerns led to attempts to obtain control over development in the countryside through the expanding town and country planning system, and to secure the designation of nature reserves and national parks. In the first case there was a growing opinion that freedom of access was of little value if the countryside was not worth the visit, and some of the access movement's energy was directed into countryside preservation groups. In the second case, although the idea of national parks was highly controversial, it gained increasing support throughout Great Britain and much of the energy that had previously been devoted to attempts to secure rights of access was subsumed in the move towards national parks in which it was hoped that area-wide access would be unrestricted.

Although the emphasis in this thesis is on events in Scotland it is not possible to separate Scottish experience entirely from events in England and Wales. Attention is directed, therefore, to the reasons for the different results

in Scotland and England even though the issues (as seen, for example, in the content of reports of special investigating committees) were similar up till 1947. In many respects the English and Welsh experience provides a key to understanding not only the past but also the probable future of planning and provision for recreation and conservation in Scotland. The way in which the national park movement developed in England is referred to here because it is seen to provide particular lessons appropriate to the development of a park system in Scotland.

The central issue in countryside recreation planning can reasonably be stated as how to achieve improvements in the opportunity for the ever increasing proportion of the population residing in urban areas to gain access to the countryside for recreation while at the same time increasing the range and quality of recreation experience relevant to a variety of needs, conserving the resource under pressure from the demands of recreation and other forms of land use, and protecting the interests and quality of life of the population resident in the countryside. Progress towards this goal is affected by the different priorities of different users of and interests in the countryside. The result reflects the relative power of any party to a conflict to sustain its interest against those with which it is in competition.

5.2 CONCERN OVER PUBLIC RIGHTS OF ACCESS

The conflict over access to mountain lands in particular

is of long standing and its origins may be seen in the romantic movement's generation of popularity for walking in the countryside as the proper act of appreciation of nature. Many factors contributed to the conflict over access, including the changing fortunes of British agriculture, which slumped at two stages in the 19th century. The first decline continued up to the time of the repeal of the Corn Laws (1846-9) but was partly countered by a move by landowners to carry out the improvements previously undertaken by tenants. The potentially disastrous effect of the repeal was ameliorated by favourable market conditions between 1850 and the 1870s. These conditions were terminated by bad seasons and the advent of cheap grain, particularly from North America, with the result that much land was taken out of cultivation [1].

Over this period two factors led to pronounced changes in the uplands. First, the shift from mutton to lamb production meant that wethers, which are not selective grazers, were replaced by flocks of ewes which are, and this led to deterioration of pasture and opened the way for invasion by gorse and bracken. Secondly, the growing popularity of shooting amongst wealthy landowners and industrialists, especially grouse shooting and deer stalking, further changed the overall system of moor management, particularly in regard to the use of fire [2]. There was conflict between the need for grass for sheep and heather for grouse, and a growing conflict with those who wished to walk in the hills. Following developments in the Pentland Hills which gave rise

to the Rights of Way Society in 1845, James (later Lord) Bryce presented an Access to Mountains (Scotland) Bill to Parliament in 1884.

This Bill proposed that no owner or occupier of uncultivated mountain or moor should be entitled to exclude or molest any person walking or otherwise present on that land for recreation or for scientific or artistic study. The power of the landed interests ensured that the Bill was defeated, that the generation of deer forests continued and that the crisis was deferred. Some progress was achieved through the Local Government (Scotland) Act of 1884, Section 42 of which made it a duty of town and county councils to assert and keep open any rights of way acquired by the public through grants, subscription or otherwise. Clearly, however, this was of little assistance in the issue that was the substance of the Access to Mountains (Scotland) Bill, namely, area-wide freedom of access.

The Hobhouse report (1947, Footpaths and Access to the Countryside) [3] notes that from this time (i.e., approximately 1885 on) there was increasing restriction of public access and closure of public paths in England and Wales. The position was similar in Scotland. The Chairman of the Scottish Rights of Way Society has indicated that the society felt at the time that the provision in Section 42 meant its job was done, but in practice it has had to maintain pressure on local authorities and twice go to court to force local authorities to carry out this requirement [4].

Nevertheless, there have not been the same demonstrations as occurred in England, particularly in the Peak District, in the 1930s.

Following the failure of his Access to Mountains (Scotland) Bill in 1884 James Bryce continued his campaign against enclosure for deer forests and submitted another Bill in 1888 which applied only to England and Wales. This too failed. In 1908 a similar Bill was submitted. It applied to Scotland as well as England and Wales and sought restricted access to some private property without being subject to law of trespass, but it too failed. Further bills were introduced in 1924, 1926, 1927, 1928, 1930 and 1931, on each occasion with the same lack of success[5], and specific local conflicts became more bitter, particularly near the crowded industrial areas of the English Midlands where sporting estates had closed much land to public access, with, in a number of instances, the support of the water supply boards. While the purpose of the latter was to ensure purity of supply it is a fair comment that private landowners could not be expected to grant access when it was denied on public land holdings, and it is understandable that there should be resentment at the leasing by water boards of sporting rights in the catchments while public access was denied[6, 7].

Concern at the continuing loss of access led many local clubs to form the Ramblers' Federation whose purpose was to encourage rambling, protect footpaths and to work for the

provision of access to open country. By 1930 both the Federation and its local branches had become increasingly well organised and, in some cases, militant. Annual rallies were held in support of the Access to Mountains Bill and some radical groups organised mass trespasses, culminating in 1932 in a violent clash at Abbey Brook, in the Peak District, as a result of which some ramblers were imprisoned, an action which probably increased public sympathy [8]. (The Federation later became the Ramblers' Association and, where it is referred to in this thesis, the assumption is made that it speaks for all its 450 affiliated clubs and societies on rambling issues).

Some illusory legislative success over access was obtained with the passage of the Rights of Way Act in 1932. The main achievement of this Act was to simplify the procedure for establishing proof of right of way and the settlement of disputes. A requirement of at least 20 years of uninterrupted public use replaced testimony that a route had been used for a period beyond living memory but, should a landowner close a path and the local authority take no action to produce the necessary evidence, the path was lost. The Ramblers' Association was dissatisfied as this gave advantages to the owner and placed no compulsion on the local authorities to ensure the registration of paths. Eleven years later, the Scott Committee on Land Utilisation in Rural Areas was to recommend a statutory obligation upon local planning authorities to record rights of way on maps, signpost all those that were undisputed and to attempt to

resolve the disputes. The Committee also recommended the establishment of a Footpaths Commission to arbitrate where necessary and to propose improvements and restructuring of public footpath routes [9]. Similar recommendations were made in the Dower report (1945, National Parks in England and Wales) [10], and very specifically by the Hobhouse Committee (1947, Footpaths and Access to the Countryside) [11], but it was not until the National Parks and Access to the Countryside Act was passed in 1949 that these responsibilities became law. In the main (i.e., apart from the Nature Conservancy's role) this legislation applied only to England and Wales and Patmore has noted that the Gosling Committee (1968, Report of the Footpaths Committee) expressed concern

> "that nineteen years after the passing of the Act there are still fourteen counties in England and six in Wales which have not completed the definitive maps for the whole of their areas ..." 12.

This unsatisfactory progress with provision of records of footpaths must be seen as running in parallel with the continuing attempts to obtain area wide rights of access through the Access to the Mountains Bill which, as has been noted earlier, was submitted in similar form on seven occasions up to 1931. A further Bill, applying only to England and Wales, was introduced by Mander in 1937, reached a second reading in 1938, but was blocked mainly because of inadequate protection against the abuse of rights of access[13]. A new Bill was introduced by Creech Jones later in 1938 which made abuses an offence and subject to fine. Cherry notes that this Bill also was blocked for some time but eventually, after indications that compromise could be reached on the

protection of sporting rights, it passed its second reading and went to Committee. The subsequent amendments were, however, unsatisfactory to the voluntary bodies on whose behalf the Bill was presented and many withdrew their support, though the Ramblers and Landowners Associations were persuaded to agree in principle to a revised Bill. The restrictions imposed by the Parliamentary Schedule prevented complete redrafting, and so amendments were introduced to the original Bill. Cherry notes that only a few words of the original Bill were retained, and that:

> "As framed, the Bill applied to Scotland, but it was understood that Scottish ramblers might ask for Scotland to be excluded. In that event, the promoters would agree; and in fact it was later decided that the Bill should not extend to Scotland. In view of the fact that trespass in Scotland was not an actionable wrong as it was in England, it was appreciated that the Scottish ramblers might take the view that they were better off under their law as it stood than they would be under a Bill with the right of access coupled with conditions and penalties" 14.

This alleged distinction between Scottish and English trespass law, which is the basis of the popular but erroneous belief that there is no law of trespass in Scotland, is important and is discussed in more detail later in this Chapter.

Although Scotland was now excluded, the Bill's progress is worthy of note. Further amendments were sought on behalf of statutory water undertakers but these were rejected. The Ramblers' Association was entirely dissatisfied, not least because the main responsibility for claiming a legal right of access fell to voluntary bodies and, since it was a private Bill, no treasury funds were to be available for its

implementation. The expense of applying for an order, publication of a map and, if required, the holding of an inquiry were to be borne by the applicants. For the same reason no funds were available for compensation of landowners. The major objection from the Ramblers' Association was, however, the variation of the law of trespass which, in some circumstances, made it a criminal offence. Nevertheless, with some modifications to the provisions on trespass, the Bill was passed to become the Access to Mountains Act (1939), and took effect from 15th May, 1940. No Order was ever sought under the Act, which was completely abortive [15]. It was left to the legislation for National Parks to attempt subsequent settlement of the still controversial issue. Cherry observes:

> "We may regard the Access to the Mountains Act, 1939, as the utmost that the landed and sporting interests"(and, for that matter, the water authorities) "were prepared to concede at that time. The next few years eroded that position considerably" 16.

One source of that erosion was the revitalised movement for national parks and one of its greatest strengths came from concern at the rate of change in landscape features. Increasingly the issue was not merely one of public access (to moorland in particular) but also of ensuring that the countryside was worth the visit. This same concern contributed to Town and Country Planning legislation. Few other factors can have caused as much "erosion" as this legislation because it cut so deeply into assumptions about private property rights. It is true that it left agricultural and forestry development largely out of the realm of

planning control, but its provision for Development Plans and restriction on change of use meant that much more control was possible over developments likely to have an adverse effect on the landscape, and the population as a whole became more accustomed to planning control, and thus to the possibility of obtaining public benefit through the planning process.

It may be that the failure of the 1939 Access to Mountains Act in England and Wales was a major factor determining the Government's continued progress towards the 1949 National Parks and Access to the Countryside Act, because while many of the provisions so long sought in relation to the protection of amenity were included in the 1947 Town and Country Planning Act, access and nature conservation were still major problems. The Town and Country (General Development) Scotland Order 1948 contained similar provisions to the Town and Country Planning Act applicable to England and Wales which set up larger and stronger local authorities to exercise planning control. Much local authority opposition to national parks has subsequently been based on their attempts to safeguard these powers. (c f., the arguments by the Convention of Scottish Local Authorities recorded in Chapter 8).

Because the Access to Mountains Act of 1939 did not apply to Scotland, the Rights of Way Society prepared a Scottish Footpaths Bill which was rejected by the Government

as too controversial. For the time being, further progress was left to the National Trust for Scotland and the Forestry Commission which had begun to make the running in regard both to provision for area-wide access and to large-scale management for some park-like purposes. The National Trust acquired some extensive areas through the Anna bequest, including the 4,700 ha. Balness estate in Argyll (acquired 1937). With the 21,800 ha. Argyll Forest Park declared in 1935, access in this part of Scotland was vastly improved, particularly as all the Balness estate and most of the Argyll Forest Park were free of restriction on access.

5.3 INCORPORATION OF ACCESS IN THE MOVE TOWARDS NATIONAL PARKS

While the debate on access to the mountains and footpaths in general continued to polarise opinion, parliament began to give attention to the matter of National Parks. These were first mentioned in a question in 1929 which called attention to "the project of securing for the nation in perpetuity some area in the Cairngorm range or elsewhere in Scotland for the free and unfettered use of the public and as a sanctuary for birds and animals". As with the first Access to Mountains Bill, the initial interest was directed at Scotland, though the fruit was to come in England and Wales. In September of that year the Prime Minister replied to this question and supporting representations by setting up a National Park Committee with a remit covering Great

Britain. The Chairman was Christopher Addison, soon to become Minister for Agriculture.

The Addison Committee was primarily concerned with the desirability and feasibility of establishing National Parks in Great Britain. It reported in 1931, but no Government action was taken on its recommendations for a system of National Reserves and Nature Sanctuaries under the executive control of a National Authority [17]. However, as Cherry notes [18], a large and influential lobby had been encouraged and the Council for Preservation of Rural England (CPRE) and its Welsh counterpart (CPRW) set up a Standing Committee on National Parks which forcefully put a policy very similar to the Addison Committee's in its pamphlet "The Case for National Parks in Great Britain" (1938). The language of the foreword in particular is expressive of the religious quality, "spiritual values" and belief in the necessity of communion with Nature which mark the Conservation movement. The demands for public access and for national parks now came together in England and Wales in a way that does not appear, as yet, to have occurred in Scotland where there was some opposition to national parks from dedicated walkers for two reasons: first, a fear that existing de facto rights might be lost; and second, that the popular attraction believed to attend the use of the word "park" would lead to overcrowding.

The reason suggested for the merging of the attempts to secure access with the promotion of national parks is as

follows. The fervour of the access movement had been high in the 1930s but the many futile attempts at legislation, combined with changing economic conditions and the onset of war, seem to have contributed to a weakening of the working-class support. There was to be no repetition of the demonstrations and clashes of the early 1930s. The amenity movement, led by the Council for Protection of Rural England seems to have become more concerned with saving the past, i.e., with opposing changes in the largely 18th Century rural landscape, at the same time as the interest in nature reserves was being revitalised through the Society for Promotion of Nature Reserves. The answer for both seemed to be the awarding of special status which would afford protection to the areas of greatest interest which in some cases co-incided with the areas where area wide access was most in demand. There now was no strong voice for access other than the Ramblers' Association which seems to have lost vigour after the heady days of the early 1930s. There was a sufficient legacy of concern about access from those days to ensure that, as the movement for national parks strengthened, the issue of access was attached to it. As will be seen, most new access was to be achieved in the National Parks, although it only amounted to a small proportion of their area. Later, as the pressure from recreation on the National Parks began to conflict with the amenity and nature conservation interests, access for recreation was to be subverted to conservation, with, as is shown in Chapter 8, the support of the Ramblers' Association.

Several important committees reported on national parks in the 1940s. The first of major significance not only for national parks but also for access and countryside recreation, was the Scott Committee which investigated the situation in England and Wales. Because reference is made below to the attempt to extend its consideration to Scotland, it is noted that the Committee drew attention to high population density in England and Wales, (703/sq.mile) and to the rapid rate of urbanisation, emphasising the inroads it was making on the countryside, particularly on productive agricultural land, and its effect on amenity [19]. Urbanisation was clearly seen by the Scott Committee as a joint evil with rural decline, and the Committee considered there was an air of depression in the countryside. Its report recommended several measures to stop the drift to the cities and improve the ability of the rural labour force to compete with the industrial. This committee was, therefore, one of the first to give substantial recognition to the fact that the agricultural policies of the interwar period had had serious effects on the life and amenity of the countryside, and to the need for the countryside to "be farmed if it is to retain those features which give it its distinctive charm and character". This was to be further emphasised in the Dower report and, from that time, it has been almost obligatory to emphasise the importance of agriculture as the creative force of many of the most prized aspects of the British landscape.

The Scott Committee's recognition of rural depression

and unsuitable developments led to several recommendations about the inclusion of rural areas in planning schemes and a greater role for both Central Government and county councils in development planning (with the first known recommendation for the employment of qualified personnel). In addition, the Committee recommended the provision of National Parks and Nature Reserves and the classification of footpaths, regarding the countryside as

> "..the heritage of the whole nation, ... the citizens of this country are the custodians of a heritage they share with all those of British descent... it is a duty incumbent upon the nation to take proper care of that which it holds thus in trust" 20.

The Scott Committee considered that the establishment of National Parks was long overdue and thought there should be a National controlling body, and that Nature Reserves should be a separate designation within which "prohibition of access should be a first consideration"(author's emphasis) [21]. Cherry records that a Cabinet statement on the Scott report was given on 30th November, 1943. The Minister said:

> "that the recommendations relating to the preservation of rural amenities and the provision of improved access to the countryside 'are accepted by the Government : the various detailed proposals are under close review by the several Departments concerned with a view to appropriate action. Surveys are being made of areas suitable for National parks, nature reserves and recreational purposes, and a detailed coastal survey is being prepared as a basis for improved measures of access and control. There can be no doubt that the post war period will see a greatly increased demand for holiday facilities, especially in the country, and the means of providing (them) ... are being worked out by the Departments concerned. In general, the Government accept the view that the natural beauty of our countryside is a matter of national importance and, as such, must be of direct concern to national planning'." 22

An attempt was made to extend the Scott Committee's terms of reference to cover Scotland because, in the Committee's view, unless Scotland was considered in the national planning context, it was "likely to suffer continued depopulation and migration of industry" [23]. Cherry notes, however, that the extension to Scotland was rejected and that the Scottish response to the report was at best negative and, on some points, scathing [24]. The main grounds for rejection were that the report seemed to represent overambitious planning, and to duplicate existing planning law. Despite this rejection a committee was set up in 1943, under Lord Normand, to review the implementation of those recommendations of the Scott Committee that were relevant to Scotland. The Committee's report (1943, Utilisation of Land in the Rural Areas of Scotland) [25] was presented soon thereafter. The Committee reported that all the more important and urgent issues were being considered: Nature Reserves by the newly established Scottish Nature Reserve Committee; access by the Scottish Home Department in collaboration with tourism interests; and national parks by three Departments in collaboration with the recently established (see below) Scottish Council for National Parks.

At about the same time as extension of the Scott Committee to Scotland was being turned down, the Association for the Preservation of Rural Scotland sponsored a Conference on National Parks (January 1942) from which was formed the Scottish Council for National Parks. This Council was to take a leading role in promoting the movement

in Scotland, submitting a recommendation to the Secretary of State in 1943 which argued, on the basis of community benefits - health, mental and moral qualities - and democratic rights, and on the need to prevent undesirable developments, that National Parks and a National Parks Commission were justified. Cherry notes that this proposal also was coolly received within the Scottish Office and that antipathy to the Forestry Commission, particularly to the possibility that they might be the administrators of parks, was expressed and was to become more significant. The following is a summary of Cherry's account of the reactions to the Councils' proposals:

> A National Parks Commission of ten members was requested. The Department of Health's observations were that this was premature. To the proposal that the Commission would survey and map land to be scheduled for preservation the Scottish Office foresaw conflict with hydro-electric interests. The "practical realism" of the power to acquire land, develop the parks and appoint wardens was questioned. The proposed budget was unfavourably compared with that proposed in the Addison Report (1931) for the whole of Britain. Delegation of forestry responsibility to the Forestry Commission raised the issue of having two Commissions operating in the same area. (This objection is hard to follow). As to the recommendation that "the Parks Commission should be given control over the care and maintenance of all Scottish rights of way" the Lord Advocate had already commented unfavourably on the similar proposal in the Scott Committee report (26).

The significance of this reaction is that the Scottish Office was clearly much less sympathetic (indeed their reaction was antagonistic) than were the equivalent government departments and ministers in England. It is not, therefore, surprising that the subsequent success in England was not matched in Scotland.

5.4 ACCESS AND NATIONAL PARKS IN ENGLAND AND WALES

Interest in National Parks continued at a much greater level in England, with Wales being carried along in close association. Further impetus had been provided by two documents published in 1944 - a White Paper on "Control of Land Use" [27] and the Standing Committee on National Parks' "National Parks: Their Creation and Administration" [28], but the next major report affecting England and Wales was the Dower Report (1945) [29]. The particular influence of this report was its identification of 20,500 sq.km. as potential national parks, 9,200 in 10 high priority areas, and 11,300 in 12 "reserves for possible future National Parks". A third list identified 34 other amenity areas. Dower also laid considerable emphasis on access, particularly on the failure of the 1939 Access to the Mountains Act to provide any solution to the problem.

Although Dower's assessment of potential parks followed the lists in the Addison Committee report, it was a one-man survey, and sufficiently controversial for it to be decided that it should be published as a report to the Minister for Town and Country Planning rather than as a Departmental Report [30]. Subsequently two official committees were set up under the chairmanship of Sir Arthur Hobhouse. Both reported in 1947, one on National Parks (Report of the National Parks Committee) [31] and the other on access (Footpaths and Access to the Countryside) [32]. From this point National Parks and provisions for access were jointly

considered in the preparation of legislation. The considerations of access in the Dower and Hobhouse reports were supplemented by a report from the Department of Health [33].

Although the remit of the Hobhouse Committee on Footpaths and Access was limited to England and Wales, many of the issues it raised also apply to Scotland. One of the most important issues was compensation, and the Committee's view is noted here because this continues to be critical to access and park planning. The Committee's proposals were aimed at improving the 1939 Access to Mountains Act. There was particular criticism of the lack of provision of public funds for compensation for damage. The Hobhouse Committee seems to have been influenced by the Uthwatt Report (Expert Committee on Compensation and Betterment, 1942) [34], and cannot have been ignorant of the matter as it was being considered in the framing of the Town and Country Planning Act (1947). The Committee was of the opinion that the public should have legal right of access to all uncultivated land (as designated); that financial loss rather than interference to property rights was the appropriate basis for compensation and that determination of financial loss could not be made in advance; that land should be withdrawn for reseeding only for a period of one year, with a provision for extension up to a maximum of three years; and that the Minister should be able to withdraw land from access where it was established that serious, wanton and recurrent damage was occurring

because of access.

The continuing debate, reinforced by the Dower and Hobhouse reports, eventually bore some fruit in 1949 with the National Parks and Access to the Countryside Act. Only the provisions for Nature conservation had any direct impact in Scotland and, from this time on, access, amenity and landscape conservation were to be increasingly tied to the separate planning legislation in Scotland on the one hand and England and Wales on the other. Some features of the 1949 Act do, however, provide valuable lessons for access and park planning in Scotland and comments on some points is given in an appendix to this chapter.

Dower's survey of potential areas was directly related to the report of the Scott Committee. Although its extension to Scotland had been rejected and its recommendations poorly received by the Scottish Office, support for the principle of national parks continued, mainly through the Scottish Council for National Parks.

5.5 THE IDENTIFICATION OF POTENTIAL NATIONAL PARKS IN SCOTLAND

The Secretary of State for Scotland told a delegation from the National Parks Council that he saw numerous difficulties, but would consult the Council again when the Dower survey of potential areas in England and Wales was completed, thus holding out some hope for a similar survey

in Scotland. Such a survey was precipitated, in advance of full consideration of the Dower report, by a move for a new Forest Park at Glen Trool. The upshot was the appointment of the Ramsay Committee whose remit was to supervise a survey of potential areas for national parks in Scotland and advise on the four or five most suitable.

The Committees' report was published in 1945 under the title "National Parks : a Scottish Survey" [35], and included a recommendation for the creation of National Parks in five areas totalling about 6% of the land surface; three other areas were recommended for a reserve list for subsequent consideration. Of particular interest are the criteria for selection of National Parks used by the Committee (see below). At this point attention is directed at the way in which proposals for national parks had apparently supplanted access as the main issue, and this will be followed further.

The Ramsay Committee (1945) defined a national park as being, in a Scottish context:

> "an extensive tract of country of outstanding natural beauty preferably also of scientific, cultural or historic interest, owned or controlled by the nation, accessible to all as a matter of right under suitable regulations and administered by or on behalf of the nation to the end that its distinctive values may be preserved unimpaired for the enjoyment and recreation of this and future generations" 36.

Major departures have since been made from this definition of nationally significant parks and these are discussed at relevant points throughout this thesis.

Working on the basis of this definition, the Ramsay Committee specified seven criteria for the selection of National Park areas which they considered should be non-controversial:

(1) Outstanding scenic beauty. "The austere grandeur of mountain and moor, the varied beauty of glen, woodland and running water should all be represented".

(2) Accessibility. "This implies both access to the National Park area and freedom of access within the area itself".

(3) Preservation and preservability. (There should be no 'disfigurements' either within a park, or on land clearly in view from within it, and continued preservation must be possible).

(4) Recreational facilities of an open air type. (Because rural industries were considered to be both compatible and supportable there were to be recreational facilities and opportunities for their development).

(5) Educational, cultural and social interests. Five headings were noted.

(a) study of scenery and geology
(b) natural history
(c) antiquities and architecture
(d) folklore and history
(e) occupations, crafts and customs.

(6) Flora and fauna. (The committee referred to 'a diminishing countryside' and 'restriction' of flora and fauna. National Parks would provide opportunity for survival of species not being a nuisance to commercial activities).

(7) Accommodation. Increases, particularly for camping, were considered appropriate.

In regard to the second criterion (accessibility) the committee said:

> "The increase in leisure and the improvement of travel facilities which may be anticipated will render this criterion one of diminishing importance (emphasis added). None the less it will be necessary to provide for two types of visitor (a) the single day or weekend visitor who must reach his destination quickly; (b) the visitor who will spend a week or more in the Park, and is prepared for a full days' journey in order to reach it. The selected areas should therefore include at least one area

situated near the largest industrial centres"

The Committee clearly considered that access to the Parks would grow by virtue of improvements in social and economic well-being. Their anticipation of growth in demand apparently was not noted by the many who now lament it. The strength of the Committee's interest in access is shown by the fact that it attached the first priority for National Park designation to Loch Lomond - The Trossachs, the area nearest to Glasgow.

The Committee also noted (1) that freedom of access within the parks initially might be less than complete but should grow except in respect of cultivated land;[38] and (2) the possible need for restriction of access for periods necessary for control of vermin, deer and other game. There was, however, no suggestion that sporting activities should similarly restrict access, rather it was to be eased by the construction of new bridle tracks and footpaths.

The Ramsay Committee considered 14 areas in Scotland and finally arranged field surveys of nine. These were:

(1) Loch Lomond - Trossachs
(2) Glen Affric - Glen Cannich - Strath Farrar
(3) Ben Nevis - Glen Coe - Black Mount
(4) The Cairngorms
(5) Loch Torridon - Loch Maree - Little Loch Broom
(6) Moidart - Morar - Knoydart
(7) Glen Lyon - Ben Lawers - Schiehallion
(8) St. Mary's Loch
(9) The Merrick - Glen Trool

The first five were recommended as national parks with a high priority for establishment. The next three were

placed on a reserve list for further (and later) consideration, and the last was set aside.

The Ramsay Committee was extended and a Scottish Wildlife Conservation Committee appointed. Together they produced a report entitled "National Parks and the Conservation of Nature in Scotland" [39]. The original Committee's definition was retained. The Committee clearly regarded parks as recreation resources; scenery was to be preserved in order to be enjoyed. Where wildlife was of national significance, distinct reserves were advised. One may question whether the Committee would have wished to include in a national park any area which the attractive power of that designation would render liable to overuse and the loss of some distinctive value. The need to improve access was recognised but the need to restrict it had not arisen because recreation was not yet seen as another of man's destructive uses of the land. There is no evidence that the Committee foresaw the possibility of overcrowding in the national parks. Interest in wilderness, arising from needs for self-actualisation, had not yet led to suggestions that the value of national parks would be threatened by the principle that they should be "accessible to all as a matter of right". The Scottish Wildlife Conservation Committee's section of the report, however, put the Nature-oriented view. Many of its statements foreshadow the fundamental conflict of interest between the wildlife lobby and the less organised recreationists which is a feature of the problem of ecological carrying capacity.

The Ramsay Committee suggested that, although it took note of Dower's view that national ownership would be impossible in England and Wales, Scotland was less developed and its land less valuable, so that acquisition should be the normal procedure and the definition of a National Park as an area owned or controlled by the nation was appropriate [40]. The Committee's estimate of the cost of acquisition of the 5 recommended areas was £1.3 million, although to this would be added compensation which, though ostensibly a matter for local authorities, should be paid by the national park where specifically occasioned by it. Since there were no 'major disfigurements' in the proposed areas compensation was estimated at £200,000 bringing the total cost of land to £1.5 million [41]. The cost of development raised this figure to £3.25 million which should be borne by the National Land Fund. Since this fund was to total £50 million, and was for the purpose of preserving the nation's heritage, this seems to have been a reasonable suggestion in terms both of logic and expense.

Because the Committee recommended national ownership, and a National Parks Commission to have oversight of planning, development and management of the parks, and to make budgetary provision for them, the capabilities of local government were not at issue. Local (Park) Committees were recommended which would have an advisory role and, if so determined by the Commission, would exercise delegated functions within the general policy for the park(s). The Ramsay Committee's opinion was that the responsibilities being proposed for

local authorities under the Town and Country Planning Bill being determined at that time should be maintained as far as possible, but that planning control in the parks should be delegated to a Park Planning Committee, to consist of two-thirds representatives of local planning authority (or authorities) and one-third representatives of the proposed National Parks Commission [42]. (This was the pattern actually adopted in England and Wales, but without national ownership and the recommended level of budgetary assistance, it has not proved satisfactory - see Chapters 8 and 9).

5.6 THE RESPONSE TO THE SCOTTISH NATIONAL PARKS COMMITTEE REPORT

This second Ramsay report also received a cool reception from the Scottish Office, particularly from the appropriate department at that time, the Department of Health for Scotland. Several problems were raised [43]. One, which has yet to be satisfactorily resolved anywhere in Great Britain despite almost thirty years experience in England and Wales, is the appropriate authority to administer national parks, and the proportion of national, local, specialist and special interest representation upon that body. Another problem was the lack of capabilities of Scottish County Councils to carry out the developmental work which would be required if national parks were to function. Neither the manpower nor the finances were adequate, there was no active support in the councils for obtaining either, and the Treasury was, as ever, firmly opposed to the assumption of national responsibility. The

Ramsay Committee's recommendation that the finance should come from the Land Fund received no support; indeed, Treasury attitude to, and administration of, this fund has long been a source of dismay to conservationists, and the matter is referred to elsewhere in the light of a recent proposal for reform of the fund.

The implication can be drawn from Cherry's account that the Hobhouse proposals found considerable support from the responsible minister in England and Wales while the Ramsay proposals were unenthusiastically received by his counterpart in Scotland, and this proved to be the major factor in success for the one and failure for the other. This lack of enthusiasm and the need to investigate the opportunities under existing legislation and to "work out schemes for the proposed .. areas" delayed matters to the end of 1949, by which time the English legislation was complete [44]. Legislation for Scotland was being considered, but there were many difficulties and caution was the order of the day. Cherry observes:

> "The English Act placed the responsibility for the planning of National Parks on local bodies. But the lack of resources in Scottish counties for the task of running and developing the Parks suggested that a scheme to follow the English pattern would be ineffective in Scotland. The only feasible alternative was some form of central administration with executive functions and wholly financed by the Exchequer. But the likelihood of Treasury support was minimal, particularly in view of the fact that even greater expenditure would be needed for Scottish Parks because so far they were relatively undeveloped. Furthermore it could not be shown that there were acute problems of preservation and access. (The need was) for development

> rather than protection; but the Highland local planning authorities had neither the staff, the resources or the will to develop. As a consequence the lobby for National Parks was outweighed by the strong vested interests ranged in opposition" 45.

It seems likely then that one major reason for the lack of action in Scotland was that, at least in comparison with England, access had ceased to be a burning issue. It was not dealt with in any comprehensive fashion by the Ramsay Committees and, although demands for area-wide access had merged with the movement for national parks in England and Wales, the Ramblers' Association and similar groups maintained a greater degree of pressure for public rights of access there than in Scotland. In Scotland, there were still no formal arrangements for access and no provision for grant to enable either the securing of access or the recording of existing rights-of-way. The Scottish Rights of Way Society had opposed extension of the access clauses of the 1949 Act to Scotland because they considered that the result then would have been "more loss than gain, due to the lack of powerful local ramblers associations and little interest by County Councils in rights-of way". By 1965 their position had changed "by reason of the large number of visitors, increased public interest and better organised county planning authorities", and the Society considered that the clauses on long distance routes should be extended to Scotland [46].

The change in opinion by the Right of Way Society is an example of the growing recognition in Scotland that the

problems of England in the 1930s could be the problems of Scotland in the 1960s.

5.7 DEVELOPMENTS IN SCOTLAND

Although the Ramsay Committee's recommendations for National parks in Scotland were rejected, the Secretary of State for Scotland was moved to give some recognition to the first five areas in order to safeguard their importance. He therefore issued, in 1948, National Park Direction Orders in respect to them under Article 5 of the Town and Country Planning (General Development) (Scotland) Order, 1948. The five areas cover an extent of 620,000 ha., which is approximately six percent of the area of Scotland's land surface. The National Park Direction Order is a control device, and does not have a positive purpose in management. It requires the Local Planning Authority to pass applications for development to the Secretary of State for Scotland and, since 1968, to the Countryside Commission for Scotland, for a view before giving approval. The Secretary of State may call in any application for determination. The Local Planning Authority does not, however, have the incentive to scrutinise an application from the same perspective as a National Park Planning Board or Committee in England and Wales.

Three other measures made important contributions to the Scottish situation prior to the Countryside (Scotland) Act in 1967. The National Parks and Access to the Countryside

Act (1949) extended the role of nature conservation to Scotland and a number of National Nature Reserves were established, together with two Local Nature Reserves. The Town and Country Planning (General Development) Order also made provision for the designation in County Development Plans of Areas of Great Landscape Value in which there would be a presumption against unsuitable types of development. These cover an area of 910,000 ha. There was, however, no common standard throughout Scotland and an active resistance to their designation in some counties because development was considered desirable. Some amenity conservation was also provided by statutory green belts proclaimed under the Planning Acts which cover an area of 130,000 ha.

Despite the deferment of any further action on the Ramsay Committee proposals in 1949, some interest in national parks continued in Scotland, again through impetus provided by the Scottish Council on National Parks (the equivalent of the Standing Committee in England and Wales). However, support seems to have further declined as the emphasis on landscape conservation became stronger. A further Bill was drafted in 1961 following support from the National Trust for Scotland, but it was a countryside and not a national park measure, mainly aimed at protection of amenity, although it did provide for sign posting of rights of way and "provision of lay-bys at scenic vantage points on private roads to which the landowner had given access" [47]. The primary purpose, however, was to enable small grants to be

made towards the cost of minor works which preserved or enhanced the natural beauty of Scotland. The Bill was aborted for two main reasons, first, the perennial shortage of legislative time, and second, the qualms of local authorities about, and opposition to, the role of the proposed advisory Scottish Countryside Council in decisions about the allocation of grant aid. [48]

Subsequently, tourism became an issue of more concern and the Bill was resurrected in 1963 with additional provisions relating to the development of tourism. These included a levy on the hotel industry to provide a Scottish Tourist Fund, to be allocated under advice from a Tourist Amenities Council, and an Exchequer grant to be allocated by an Amenities Council. Opposition on the first point from some sections of the tourist industry and continued opposition to the second from the local authorities and the Exchequer again forced abandonment of the Bill, though the sections dealing with improvements of amenity by local authorities were added to the Local Government (Development and Finance) Scotland Act 1964, Section 2. [49]

The idea of national parks (at least on the English model) had by now been effectively abandoned and the countryside legislation being prepared in an attempt to improve the 1949 Act in England and Wales was taken up in 1965 for consideration in Scotland. The report of Study Group 9 of the second Countryside in 1970 conference so strongly supported a Countryside Commission as the appropriate body to plan

for countryside conservation in conditions of booming demand for recreation, that no real alternative existed. It was obvious that there had to be some legislation, and the developing Bill in England provided a starting point. The parliamentary schedule was such that an almost unique event occurred - the Scottish Act was passed before its English counterpart.

The Study 9 report "Countryside : Planning and Development in Scotland" assessed the needs of Scotland for countryside conservation, and progress towards their satisfaction, and recommended new or improved policies and procedures. The "special considerations" of which note was taken were:

(1) The large reserve of wild country, with poor soils supporting only rough grazing; the great length of undeveloped coast; and the (grossly) underdeveloped fishing potential of its inland waters;

(2) The proximity of wild country to urban populations living at the highest concentration in Britain; the growing restriction being placed on access for these people; and the lack of a reserve of well-located common land such as relieved the pressure in England and Wales;

(3) The lack of a National Parks Commission and of River Authorities with conservation duties; the limited capabilities of local authorities in the Highlands; and the economic decay of the Highlands;

(4) The impoverishment of the land by current agricultural and sporting management;

(5) The survival of special cultural traditions, notably of crofting (50).

The Study Group then noted the existing and projected growth in demand for recreation in the countryside. Even at the beginning of its report, it was clear that it was

preoccupied with the Highlands, and the potential change in the Highland landscape due to programmes of afforestation was emphasised. At the same time, the continued benefit of the agricultural economy and the accompanying conflict with the recreational opportunities of the townsman was noted, as was the changing location of urban pressures that followed attempts to revitalise the urban economy and alleviate the most serious problems of housing [51].

The Study Group then drew attention to the need for a reorientation of attitudes. It is a pity that this far-sighted report has not had greater effect because, apart from noting that agriculture could be expected to continue to prosper - as in fact it has - and that this would lead to problems over access, it also observed that there is in fact no substantial difference between the laws of trespass in England and Scotland. This point is emphasised because the ramblers' rejection of national parks in Scotland in the 1940s was based on the false premise that anyone was free to walk on moor and mountain and there was not at the time, nor was there likely to be, a problem of access in Scotland like that in England. To introduce legal procedures for negotiated access would, it was claimed, cause loss of rights where no agreement was made. In fact, permission can be required for access to private land, and the only real difference from English law are, firstly, that in Scotland there is no penalty for trespass itself but only for damage caused by the trespasser, which can be very difficult to prove and, secondly, that the only method of

preventing trespass is through an interdict served on a named individual. These differences were the reason for the lack of trespass litigation.

Study Group 9's report noted that despite the "hostility in some quarters to the idea of public ownership of land as recommended in the Scottish National Parks Committee Report of 1947" [52], there had been considerable acquisition of land in the National Park Direction Areas, for numerous purposes. Table 5.1 shows the extent of acquisition.

Table 5.1

Percentage of Publicly-owned Land in National Park Direction Areas, 1965.

N.P.D.A.	AREA (%)
Loch Lomond Trossachs	50
Glen Affric - Strathfarrar - Glen Cannick	37.5
Cairngorm	20
Ben Nevis - Glencoe - Black Mount	16
Loch Torridon - Loch Maree - Loch Broom	3.5
Total	18

Source : Study Group 9, Report, Annex 3.

The major influence of this study group came from its support for recommendations about organisational opportunities

for securing conservation in Scotland. Aware that the name of national organisations was a major cause of continued difficulties, but that local authorities in most cases had neither the ability nor the motivation to undertake the necessary action, the Group agreed that the call for a National Parks Commission could be dropped. In fact, since conservation was necessary on a much wider scale than could be provided by specific National Parks, the Group recommended that a Countryside Commission be set up "with country-wide responsibilities for the conservation of fine landscape, co-ordination of surveys of outdoor recreation resources, designations in a new category of areas of special value for open air recreation and for ensuring the development of the use of these resources with due regard to conservation and other interests" [53] . The need for "National Parks"was still recognised, but the actual name was not considered necessary so long as there was some provision for special attention in those areas. Nevertheless, as will subsequently appear, nomenclature remained as difficult a problem as ever when the Countryside Commission for Scotland was established and issued its proposals for a Park System.

The suggestion for a Countryside Commission for Scotland was quickly adopted. In reply to a question in Parliament on 17th November, 1965 the Secretary of State for Scotland announced that it was the Government's intention to proceed and

> "to ensure that (the) Commission and .. local authorities will have all the powers necessary not only to conserve .. scenic beauty but to see that its <u>recreational and tourist potential</u>

is developed to the full ... (with) appropriate Exchequer assistance". (emphasis added).

It is past history that the Commission was not given all the necessary powers, nor an adequate and assured budget from the Exchequer. Constrained to operate in an intermediate position between the local authorities on one side and the Scottish Development Department on the other, it has been limited in its attempts to achieve the aims set out in the Secretary of State's answer to Parliament as emphasised above.

As on previous occasions, the proposals were coolly received by the Association of County Councils, but their weaknesses in the matter of recreation and tourism development were so patently obvious that some new body was inevitable, though it was clearly to be required to operate through the local authorities except in the case of prototype developments.

5.8 THE COUNTRYSIDE ACTS

The Countryside (Scotland) Act, 1967 established the Countryside Commission for Scotland with dual responsibilities ("functions") for the provision, development and improvement of facilities for the enjoyment of the Scottish Countryside, and for the conservation of its natural beauty and amenity [54]. In the exercise of these functions the Commission is required to have due regard to the need for the development of recreational tourist facilities and for the balanced economic and social development of the countryside [55]. The Act also

extended responsibility to every Minister, government department and public body to have regard to the desirability of conserving the natural beauty and amenity of the countryside in the exercise of their own functions relating to land [56], and enabled the Forestry Commission, water authorities and electricity boards to undertake certain recreational and related developments [57].

The three most substantial powers given to the Commission, and relevant to this thesis, were:

(1) advisory functions in regard to planning matters affecting land in designated countryside, including the particular ability to advise the Secretary of State in regard to Areas of Special Planning Control established under the Act [58].

(2) to promote, implement and recommend grant in respect of development projects or schemes in the countryside relevant to its functions; these included assessing, reviewing and advising on the registration and development of country parks [59].

(3) powers to advise local authorities and the Secretary of State in respect to the making of access agreements or orders in open country and to promote long distance routes [60].

The Act also contained clauses in regard to public footpaths and rights of way, and to the provision of warden and interpretation services. Because the Commission was established mainly as an advisory body, most responsibilities in relation to access, footpaths and rights of way, and country parks remained with the local authorities. The success of the

Commission was therefore bound to depend on its abilities, first, to encourage local authorities to plan and undertake schemes for the improvement of recreation and the conservation of amenity; secondly, to influence central government to provide rate support and special purpose grants to finance such schemes; and thirdly, to ensure that developments in the countryside did not reduce the quality of the landscape or diminish its recreational carrying capacity.

The Countryside Act (1968), which applied to England and Wales, was broadly similar, but included additional responsibilities in respect to National Parks and Areas of Outstanding Natural Beauty. Under the provisions of this Act rapid and substantial progress was made with the creation of country parks. Two main reasons are suggested for this: firstly, the Act more clearly specified the responsibility of the Countryside Commission to consider the recreational needs of the major urban areas and to encourage and develop facilities in the urban fringe; and secondly, the existing base of national parks was sometimes under heavy pressure from those seeking countryside recreation (for which nationally significant parkland was often unnecessary), and there was mounting criticism from agricultural, amenity and nature conservation interests which led to a concerted effort to develop recreational opportunities outside the national parks. Cherry suggests that the concept of country parks was adopted equally avidly in Scotland [61] but this is disputed. The Countryside Commission for Scotland received a large number

of representations in its first years but, mainly because of shortcomings in the planning and recreation management capacities of the local authorities, most were not approved and interest declined. After ten years of operation by the Commission only seven country parks had received full recognition. Not all of these were demonstrably parks or pleasure grounds closely related to major concentrations of population and convenient for open-air recreation. The number approved now stands at ten and several more have received, or are about to receive, provisional registration. The Scottish Commission's progress with access agreements has been equally slow and major controversy has occurred over one (at least) of its long distance route proposals. Over access agreements, the Commission now is making a greater impact, but its recognition of the need for a substantial improvement in recreation opportunities, and the pressure of development proposals which have threatened some of Scotland's most important scenic heritage, have prompted the Commission to publicise its proposal for a park system and to attempt to secure enabling legislation to permit it to better carry out its existing functions and to implement the new categories of park and principles of management suggested in its discussion document on a Park System for Scotland.

5.9 CONCLUSION

The account of events and issues which contributed to the establishment of national parks in England and Wales but not in Scotland, reveals the importance of agreements made between

competing interests, and the decisions made when disagreement was more serious and it became necessary to judge between conflicting interests. Although Scotland did not get national parks and so needed no National Parks Commission, it is important to note that the issues remained unresolved and, because there were some quite serious shortcomings in the ability of the National Parks Commission (England and Wales) to achieve all the desired goals and to adapt to the changing pressures on the national parks and on the countryside in general, Countryside Commissions were established both for Scotland and for England and Wales. At their establishment there was a resurgence of interest in, and attention to, countryside recreation in which the establishment of country parks was the most notable but far from the only achievement. The poorer performance in Scotland may be attributed to three main causes : firstly, there still was not the same sense of urgency, particularly in respect of access to the countryside; secondly, the Scottish Commission was, in the author's view, very inadequately staffed in respect to both Commissioners and Officers with knowledge, experience and interest in recreation, (landscape conservation continues to be the dominant interest); and thirdly, the Scottish Commission did not have the benefit of almost twenty years of experience in securing both parks and rights of access to the countryside in consort with local authorities, as did its counterpart in England and Wales. Two qualifications should be noted here: firstly, the Countryside Commission was not simply a renaming of the National Parks Commission - many new personalities were added and it was mainly they who strengthened the recreation

interest; and secondly, the Scottish Local Authorities were, on the whole, less able and willing to undertake substantial new initiatives towards recreation or landscape conservation. (This point should not be over-emphasised - some of the Scottish Authorities were quite strong, particularly in regard to landscape conservation, and some of the English and, particularly, the Welsh Authorities were weak).

The Countryside Commission for Scotland was faced with the task of establishing itself as a largely advisory body to promote development of recreation opportunities in a situation where the opposition to access was well organised and powerful. In competition with a poorly defined interest in access were three main groups of competing interests:

(1) The existing landowners and farming tenants who were uncompromisingly opposed to public acquisition of land for recreation, and disinclined to enter into access agreements. These groups saw development of recreation as a threat to their own livelihood and quality of life;

(2) The existing sporting and recreational interests. These groups included the shooting and, to a lesser extent, the fishing interests who feared interference with their own recreation and/or loss of ownership of sporting 'rights', and groups specialising in particular pursuits, especially mountaineering, who feared that promotion of access (and parks) would reduce the satisfaction to be derived from their own activity and/or cause the 'opening up' of more remote areas; and

(3) Landscape and Nature conservation interests

> whose objections were similar to those of the mountaineers, with the specific added concerns that development would lead to undesirable features in the landscape and to damage to plant and animal communities. It should be noted that the interests of these groups already received support through the Planning Acts and through the Nature Conservancy Council which was set up when the Nature Conservancy was reorganised in 1963.

Just as the competition and conflict with these interests, and the differences of opinion and priority with central government departments affected the structure, responsibilities and powers of the National Parks Commission and the two Countryside Commissions on their establishment, so they also have affected the ability of the Commissions to secure and improve provision for recreation in the countryside as required under their respective legislation. To refer specifically to the proposed Park System for Scotland, it is suggested that the content of this system - its parts, their location and their ability to provide recreational benefits - will depend in the main on the ability of the Scottish Commission to obtain agreement and resolve conflicts with such competing interests.

The progress of the proposal and the conflict surrounding it form the subject of Chapters 8 and 9. First, however, the relationship between conflict and carrying capacity and the structural option for management of conflict situations that is provided by zoning are developed and discussed, and, in the following chapter, the discussion to that stage is reviewed and some conclusions drawn.

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(13) CHERRY, G.E. (1975) op.cit., p.16.

(14) ibid., p.20. The following quotation is Cherry's summary of "the essence of the Bill":

"...The responsible Minister" (the Minister of Agriculture) "was empowered on application (and after holding a public enquiry if necessary) to apply the Bill by Order to specified land - with additional restrictions if necessary. Applications for Orders might come from a landowner, a local authority (including a parish council) or a rambling association. Landowners were empowered voluntarily to secure the application of the Bill to specified land by depositing a deed with the responsible department. Penalties were imposed for a list of offences; ... extended considerably from the original Bill".

(15) ibid., p.25.

(16) ibid.

(17) ADDISON REPORT (1931) loc.cit.

(18) CHERRY, G.E. (1975) op.cit., p.15.

(19) SCOTT REPORT (1942) op.cit.

Underlying the concern was the problem of the distribution of the industrial population that had been the focus of the Barlow Report which highlighted the need to disperse industry throughout the country and control the growth of London.

BARLOW REPORT (1940) Report of the Royal Commission on the Distribution of the Industrial Population, Cmd. 6153. (London : HMSO)

(20) ibid., para. 160.

(21) ibid., para. 178.

(22) CHERRY, G.E. (1975) op.cit., p.37.

(23) SCOTT REPORT (1942) op.cit., para. 241.

(24) CHERRY, G.E. (1975) op.cit., pp.68-69.

(25) NORMAND COMMITTEE (1943) Utilisation of Land in the Rural Areas of Scotland, Report of Committee, Cmd. 6440. (Edinburgh : HMSO)

(26) CHERRY, G.E. (1975) op.cit., p.71.

(27) (1944) The Control of Land Use, Cmd. 6537 (London:HMSO)

(28) STANDING COMMITTEE ON NATIONAL PARKS (1944) National Parks: Their Creation and Administration (Councils for Preservation of Rural England and Wales)

(29) DOWER, J. (1945) loc.cit.

(30) CHERRY, G.E. (1975) op.cit. p.38.

(31) HOBHOUSE REPORT (1947a) Report of the National Parks Committee (England and Wales), Cmd. 7121 (London : HMSO)

(32) HOBHOUSE REPORT (1947b) Footpaths and Access to the Countryside : Report of the Special Committee (England and Wales), Cmd. 7207. (London : HMSO)

(33) DEPARTMENT OF HEALTH (1948) Gathering Grounds : Public Access to Gathering Grounds, Afforestation and Agriculture on Gathering Grounds. S.O. No. 32-384.

(34) UTHWATT REPORT (1942) Report of the Expert Committee on Compensation and Betterment, Cmd. 6386. (London : HMSO)

(35) RAMSAY REPORT (1945) National Parks : A Scottish Survey, Report by the National Parks Survey Committee, Cmd. 6631. (Edinburgh : HMSO)

(36) ibid., para. 5.

(37) ibid., para. 11.

(38) This raises the interesting point that the law, at least in England, permits the ploughing of a footpath - hence the present concern about maintaining the Ridgeway's status as a road. The controversy over conversion of moorland in the English National Parks shows the danger to access from cultivation should this be automatically accepted as grounds for restriction of access, though it should be noted that, in Scotland, the surface of a ploughed over right of way must be restored by, or at the expense of, the occupier of the land. (Countryside (Scotland) Act, 1967, Clause 43)

(39) RAMSAY REPORT (1947) National Parks and the Conservation of Nature in Scotland, Report by the Scottish National Parks Committee and the Scottish Wild Life Conservation Committee, Department of Health for Scotland, Cmd. 7235. (Edinburgh : HMSO)

(40) ibid., para. 118-119.

(41) ibid., para. 124.

(42) ibid., pp. 32-33.

(43) CHERRY, G.E. (1975) op.cit., p.141-143.

(44) ibid., p.143.

(45) ibid.

(46) "THE COUNTRYSIDE IN 1970", SECOND CONFERENCE (1965) Countryside : Planning and Development in Scotland, Report of Study Group No. 9, London, 10-12 November, 1965. (London : The Royal Society of Arts and The Nature Conservancy) paras. 13,14.

(47) CHERRY, G.E. (1975) op.cit., p.145.

(48) ibid., pp.32-33.

(49) ibid., pp.147-148.

(50) "THE COUNTRYSIDE IN 1970", SECOND CONFERENCE (1965) op.cit., para. 1-7.

(51) ibid., para. 8-12.

(52) ibid., para. 15.

(53) ibid., para. 43.

(54) GREAT BRITAIN, Laws, Statutes, etc., Countryside (Scotland) Act, 1967, 15 and 16 Elizabeth II, Ch. 86. Part I, Cl. 1 (1).

(55) ibid., Ch.1(2).

(56) ibid., Part V, Cl.66.

(57) ibid., Part IV, Cl.58-65.

(58) ibid., Part I, Cl. 8,9.

(59) ibid., Part I, Cl.5-7 and Part IV, Cl.48.

(60) ibid., Part II, Cl.10-29, and Part III, Cl.39-42.

(61) CHERRY, G.E. op.cit., p.159.

APPENDIX TO CHAPTER 5

SALIENT FEATURES OF THE NATIONAL PARKS AND ACCESS TO THE COUNTRYSIDE ACT, 1949

The National Park and Access to the Countryside legislation, as passed in 1949, failed to implement the Hobhouse Committee's recommendations for a legal right of access to all uncultivated land in the National Parks. The legislation also disregarded the Committee's contention that compensation could not be assessed in advance and should not be based on loss of property rights. As will be shown in Chapter 8, the latter is one of the most serious issues of conflict in the existing English and Welsh National Parks and in the proposal for a Scottish park system.

The most noteworthy new provisions in the 1949 Act include the power given to local planning authorities to enter into access agreements and, if necessary, to make access orders; and the extension of the 1939 definition of open country to include "the foreshore and any bank, barrier dune, beach, flat or other land adjacent to the foreshore". The Act also provided for compensatory payments but not, as noted above, in the manner recommended by the Hobhouse Committee. Only the provisions for Nature conservation had any impact in Scotland, and from this time access, amenity and landscape conservation were so closely tied to the planning system that legislation pertaining to them, though similar, was invariably limited to Scotland on the one hand and England and Wales on the other, in the same way as planning legislation generally, and eventually separated from nature conservation legislation which was not so limited.

The 1949 Act had 25 sections dealing with access. Two of these (Sections 61a and 62) required local authorities to survey open country in their domain by the end of 1951, assess the need for access and implement provisions for it within the subsequent year. Only nine counties which had little or no "open country" met the deadline.

The Act led to only a small increase in the land available for area wide access. Even after introduction of the Countryside Act (1968) Gibbs and Whitby found that the total additional area, up to 1st April, 1973, was 35,259.5 ha., of which more than half (19,752.2 ha.) was in the Peak District National Park. Only 20% of the area negotiated was not in national parks, but the 28,200 ha. in them represented only 2% of their total area(1). In fact, access agreements even now apply in only five of the ten National Parks (Peak District, Lake District, Yorkshire Dales, Dartmoor and Northumberland; some agreements were negotiated in Exmoor, but subsequently lapsed, and the National Park Plan (1977) states that there are no access agreements in Exmoor National Parks). The biggest contribution under the two acts has been in the Peak District and Yorkshire Dales, the two areas in which the conflict was most extreme and in which an

aggressive policy was necessary. In the Lake District, Snowdonia and Dartmoor the position over access was eased by the higher proportion of common land and/or the holdings of the National Trust over both of which access was effectively free. In practically all the parks, land has been acquired for purposes of access, though most purchases now are for landscape conservation which has steadily replaced access as the main issue.

Although at the time the 1949 Act was being debated it had been expected that a comparable measure would be introduced in Scotland, the Bill was postponed pending experiences in England and Wales. That was its death knell because the weight of professional opinion in Scotland is now heavily to the effect that the English parks have failed, and this view is shared by the farming and landowning interests. The "deadlock in England and Wales over any amendment to the 1949 Act" (2) was not unnoticed, and the reasons for the desired changes were used to oppose the development of national parks in Scotland.

Because the 1949 Act set up a National Parks Commission rather than a Countryside Commission with wider functions it had serious shortcomings in respect to comprehensive planning for countryside recreation. While the demand for recreational access to the countryside was growing rapidly, the Commission could do little but support the increase in the use of the National Parks which were in its oversight. The crucial need for other elements in a recreational park system had to be considered by the local authorities or virtually not at all. The possibility of development of facilities elsewhere in the countryside, and of country parks in particular, became one of the most crucial items in the reform of the 1949 Act. The other critical issue was improvement of the provisions for access.

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CHAPTER 6 : THE CARRYING CAPACITY OF RECREATION ENVIRONMENT

6.1 INTRODUCTION

Carrying capacity is a concept widely used in planning for recreation and conservation where the concern is to ensure that access to and development of resources are consistent with the ability to produce some desired benefit. The literature on the subject is large and a full review of it is beyond the scope of this thesis. The aims of this chapter are: to examine the relevance of the concepts discussed in the preceding chapters to the problem of recreational carrying capacity; to consider the use of classification and zoning as tools for planning and management of park systems in which objectives are stated in terms of carrying capacity; and to attempt to clarify the concept by emphasising the results of conflict which arise from the different requirements of different users of park and recreation resources, particularly where development threatens, or causes, some change in the environment.

This discussion draws heavily on the ecological concepts of niche, succession and competition as analogies for some aspects of carrying capacity. These concepts, especially the niche, are used because they bear particular relevance to the competition for use of the same space for different activities which lies at the root of many problems of carrying capacity in countryside recreation. The ecological carrying capacity, i.e., the ability to sustain a particular ecosystem, is of only marginal concern because much of the conflict that

is the subject of this study is not directly related to the impact on resources but rather to the competing demands for their use. It is common that attempts are made to isolate strongly competitive elements and to specify activities consistent with defined areas but, though this is feasible in a stable environment, it can lead to conflict in situations where adaptability is required.

6.2 THE CONCEPT OF THE NICHE AND ITS RELEVANCE TO COMPETITION

In Chapter 1 a simple example was given of the relationship between carrying capacity and competition between individuals of a single species, in which competition was allied to the rate of growth in the population of the species. If a niche is recognised as a term for the specialisation of a species population within a community [1] it can be suggested that there may be advantage in the choice of specialisations which avoid direct competition with other species. This suggestion foreshadows the discussion of zoning (pp.265f.) which is a technique for deliberately creating niches for just this purpose. It is, however, necessary to precede that discussion with further consideration of competition, again using the concept of the niche as a framework for the argument.

The equation presented in Chapter 1 (p.27) indicates that the rate of growth of a population may be increasingly limited as it approaches the capacity of the resource (or space) to support the population. This finding suggests that increasing competition between individuals for limited

resources results in reduction of the rate at which additional individuals enter (or are permitted to enter) the niche, which means that as carrying capacity is approached the natural increase in the number of individuals, or the increase through in-migration will be progressively diminished if all the individuals have the same requirements for the resources of the niche.

Though the concept suggests that, at the population density which is the carrying capacity for any specific set of requirements, the next individual will be excluded, that is not always the case in Nature. There are normally oscillations about a level which may be called an optimum. [2] A full discussion of population dynamics is not warranted here, but the point is made that, in this example of a single species, it can be expected that the optimum level of population will be attained and that the actual population will fluctuate around this level. The size and rapidity of those fluctuations indicates the comparative stability of the equilibrium between organism and resources.

There are certain relatively automatic processes by which balance is maintained in Nature two of which, the concepts of feedback and territoriality, have been referred to in Chapters 2 and 4. Detailed discussion of these concepts would require an excessive increase in the length of this thesis, and they are extensively developed in systems [3], ecological [4] and ethological [5] literature. The point to be noted here is that these processes may be seen in the suppression of increase in population and/or

the exclusion of other individuals either by expulsion or by exclusion (i.e., preventing access). These processes also operate in the human use of resources or space but their foundation may have the additional dimension of perceived crowding or depletion of resources. In recreational or environmental concerns, the qualitative aspect of carrying capacity may be dominant and competition associated with quality may lead to conflict long before quantitative (physical) carrying capacity is approached. That permits the observation that qualitative considerations may mitigate against the development of a recreation or park system to its full capacity because much of the conflict surrounding recreation hinges on the issue of whether physical carrying capacity should be increased. At issue is the potential impact of an increasing population of recreationists on the quality of the recreation experience or the conservation of the resource which is being used for recreation and, possibly, for other land-uses as well. The feedback mechanism operates on and through the planning system to control the growth of the recreational population either through suppression or through exclusion but exclusion is difficult to justify unless an optimum population (or carrying capacity) can be defined and an effective mechanism for controlling population implemented. It is characteristic of competition within a recreational pursuit that the capacity cannot be easily defined except in the case of 'physical' carrying capacity, e.g., the number of mooring and launching spaces at a marina or similar facility, the capacity of a

ski-tow or chair lift, the number of seats for spectators at a sporting event, or the number of parking and/or picnic places at a beauty spot.

In range and wildlife management where the concept of recreational carrying capacity had its origins capacity meant the maximum number of individuals of a species which could be supported without permanent depletion of the resource base or, in a more refined sense, the optimum population size and structure to permit maximum output per annum (or some other time period) on a continuous basis. The distinction between these two definitions is of some value to this thesis because it is suggested that the first is more closely allied to site carrying capacity which is of marginal interest, while the second is related to the carrying capacity of a system of land use, which is the main concern here.

Any species moving into a niche has an effect on conditions in that niche and may (and almost certainly will) directly or indirectly affect the conditions of other niches in the same habitat. In recreational terms this effect enables distinction to be drawn between three types of problem pertinent to carrying capacity:

(1) the competition for space between individuals performing the same or same type of activity, which is the 'simple' situation already discussed (cf., competition for space within a niche by additional individuals of the same species);

(2) competition for space from individuals wishing to use the same resource or facility for a different activity (cf. 'invasion' by a new species with the same niche requirements); and

(3) effects on the space used for one activity by those using contiguous space for a different activity (cf. effect on one niche by the activities of another species in its own niche in the same habitat).

Emphasis is placed upon two particular points, firstly the changes in the conditions of the niche which are a product of its occupation by one species and make the niche more suitable to the requirements of another species and, secondly, changes in some occupants of the niche or in occupants of other niches which enable them to compete for, and possibly to dominate, the niche. An example of the first is the process of soil formation assisted by adventitious plants that improves conditions for other plants. A recreational parallel is 'pioneering', e.g., a new trail made by wilderness hikers which opens up an area to the less adventurous hiker. It is suggested that the second type can refer to evolutionary trends which include changes in the way an activity is performed and, by analogy with mutation, the rapid development of new activities. An example of the former is a change in 'camping' behaviour from tents to 'mobile campers' and of the latter the introduction of snowmobiles. There is, however, a further point to be made about the parallel with mutation. This is that new activities often seem to cause more virulent conflicts and to give birth to new conservation 'causes', and to do so with increasing frequency. The response of the manager of a resource normally is to attempt to gain control by the introduction of measures (such as zoning, traffic control and ranger services) to protect the recreational value and to conserve the amenity of the area. However the result may

be that its attraction to additional visitors is further increased at the expense of satisfaction accruing to regular users of the area.

These considerations support the conclusion that just as a species moving into a niche (whether or not it is vacant) has an effect on the niche and the habitat which contains it and causes a reaction by any existing occupants of the niche and of other niches in the habitat, so there inevitably is a reaction to attempts to change the distribution or intensity of recreation activities, because these attempts increase competition with or reduce the suitability of an area for other uses, and/or its capacity to support them.

Before attempting to show how the ecological concept of the niche can contribute to the understanding of this more complex situation of competition between different activities, it will again be helpful to refer to the model of single species competition presented in Chapter 1. There it was suggested that the rate of growth in the number of recreational visits to a park or site (dN/dt) could be predicted if the potential growth rate in the absence of competition (r), the carrying capacity of a limited resource (D), and the initial population (N) were known. Thus

$$\frac{dN}{dt} = rN\left[\frac{D-N}{D}\right] \quad (1)$$

It was suggested that action would be necessary to prevent conflict over carrying capacity if the actual rate of growth

in the number of visits exceeded the rate as calculated from equation (1). In theory this rate decreases rapidly as the number of visits approaches capacity. Probably the most difficult parameter to determine is the carrying capacity. The value of this model would be greatest, therefore, if some reliable estimate could be made of capacity in relation to the capability of the resource (i.e., its ability to support some activity) and the goals of the users. Given these estimates the resource manager could determine whether the trend was such that additional capacity would be required within a defined period, or whether some action to reduce competition or exclude additional users would be necessary within that period.

It was suggested earlier that "niche" is a term for the specialisation of a species within a community and that there may be advantage in the choice of specialisations which avoid direct competition or competition above a certain threshold. This conclusion raises two issues: firstly, whether strong competition necessarily results in the elimination of all but one of the competitors; and secondly, the beneficial effects of competition and stress.

To facilitate discussion of the first of these issues, the model is extended to account for competition between two (or more) populations.

Let N_1 and N_2 be the populations of competing species at a given time and D_1 and D_2 the carrying capacity for each

in the absence of competition. Allowance for competition can be made through co-efficients k_1 and k_2 which indicate the effect of population change in one species on the size of the population of the other through $k_1 N_2$ and $k_2 N_1$. If, as before, r_1 and r_2 are the potential growth rates in the absence of competition then

$$\frac{dN_1}{dt} = r_1 N_1 \frac{D_1 - N_1 - k_1 N_2}{D_1} \qquad (2)$$

and

$$\frac{dN_2}{dt} = r_2 N_2 \frac{D_2 - N_2 - k_2 N_1}{D_2} \qquad (3)$$

Gause's principle of competitive exclusion, referred to in Chapter 1 (p.22), suggests that one of the two species would eventually be eliminated if they had identical niche requirements. It was noted there, however, that in Gause's experiments with Paramecium the population of one species in mixed culture rose and that of the other fell, but the first did not reach the level it maintained in pure culture, nor was the second eliminated. The reason can be deduced from equations (2) and (3) in that, if

$$k_1 < \frac{D_1}{D_2} \qquad \text{and} \qquad k_2 < \frac{D_2}{D_1}$$

both survive because, as carrying capacity is approached, each species progressively inhibits the growth of its own population more than the other's. The obvious parallel with recreational carrying capacity is that a qualitative carry-

ing capacity may be reached before the level of use at which other recreational activities or other forms of land use become impossible and are eliminated.

It is common for the habitat requirements of different species to overlap and, as noted (p.135), the law of the inoptimum states that no species encounters in any given habitat the optimum conditions for all its functions. This conclusion suggests that a concept of competition similar to that outlined above could apply to activities or land uses which do not have identical requirements either for resources or for space but which overlap in some critical area. Research into the substitutability of recreation activities, if extended by identification of the essential common requirements of different pursuits, might contribute to better understanding of these critical areas of overlap. A suggestion for research along these lines is made in Chapter 10.

In respect of the second issue raised above, namely the beneficial effects of competition and stress, and in the light of the discussion in Chapter 3, it is noted that Carson and Driver [6] suggest that some forms and degrees of stress are fundamental pre-requisites (i.e., necessary conditions) for the attainment of personal fulfillment (i.e., self-actualisation) in terms of creativity, achievement and stability. Stress stimulates self-awareness and awareness of the environment, it guides the direction of response to environmental forces, particularly changes, and it encourages the development of mechanisms for coping with change and prompts action in

accordance with them. Thresholds of stress are important because both a deficiency and a surplus of stress are considered detrimental to human well-being [7].

O'Riordan distinguishes two responses to stress, adjustment and adaptation.

> "Adjustment involves some kind of positive and deliberate reaction usually aimed at reducing the impact of the noxious element, and is therefore homeostatic in nature. Adjustment can be of two kinds - technological where specific inputs of 'hardware' are sought; and behavioural where the 'softer' psychological, behavioural and institutional processes come into play. Adaptation is ... the more restricted sense of tolerance, where stress is recognised but in the short term at least is accepted with no alteration to an existing way of life" 8.

The author has reservations about O'Riordan's use of 'reaction'; 'response' seems more appropriate to an action deliberately directed at reducing the impact of the stress. The argument about reaction and response centres on the first being a fairly automatic action and the second being one in which some conscious choice is made based on an individual's values. In addition, 'counteraction' seems a better word than 'adjustment' because it may take two forms, either a change in the organism itself, or an attack on the source of stress aimed at destroying (or at least alleviating) it or the threat it presents. In O'Riordan's definition, adaptation implies the possibility of passive acceptance of loss of environmental quality.

It is here suggested that stress occurs at various interfaces between an individual and his environment, whether it be

social or physical. The pursuit of goals and objectives related to values may be the very thing which brings an individual into the position where stress occurs, i.e., activates an exchange at a critical interface. For example, pursuit of a wilderness experience may bring the individual into competition with others also desiring to undertake some, not necessarily recreational, activity at the same time and place.

The value of the distinction drawn by O'Riordan is that his two categories suggest that adaptation may be an adequate reaction to stress below some threshold whereas beyond it a more positive adjustment (i.e., modifying response) may be necessary. At what point of intensity of interaction such thresholds occur is problematic, but it is suggested that it is the point at which some identifiable conflict will occur. At that point carrying capacity has been exceeded for that particular issue.

The model of competition within a niche suggests that a threshold of conflict is any level at which the co-efficient of competition (k) for one competing species (n) is so large that it will suppress increase by others (m) more than it will suppress its own increase, i.e.,

$$k_n \gg \frac{D_n}{D_m}$$

The important factor in this event is not the carrying capacity in the absence of competition from other species (D), or even some composite carrying capacity related to

the proportion of each species, but the factor(s) which give one species a competitive advantage. It is therefore suggested that recreational carrying capacity is determined by the propensity for conflict between competing demands on a resource, and this propensity is a consequence of the competitive ability of the various activities or land uses and/or the willingness of these interests to attempt to force an adjustment rather than to adapt to the stress being generated.

It was seen in Chapter 5 that competitive ability may have spatial variation. The opponents to both parks and access to the countryside were more powerful in Scotland than in England and were able to prevent legislation enabling parks to be established and rights of access to the countryside to be secured. As the increase in recreational pressure on the countryside continued, however, the ability to prevent legislation on access was lost, though the opposition to parks remained strong. Chapters 8 and 9 examine some of the changing balances in this conflict.

6.3 THE CONTROL OF COMPETITION AND CONFLICT

In the remainder of this Chapter zoning and carrying capacity are considered as concepts in the park system management in particular because zoning is a deliberate attempt to control the propensity for conflict through the planning system by creating specialised niches in which either: (1)there will not be direct competition; or (2)competition will be kept below a certain threshold; or (3)the rate of

growth of activities will, at least on average, be progressively restricted as some estimate of carrying capacity is approached. This discussion foreshadows another point, namely that carrying capacity may be increased or lowered according to the criteria by which it is estimated. Substantial changes in total capacity may be affected by 'design' but this may be at the expense of capacity for an activity for which a virgin environment is required. The technique for creating niches by zoning is closely related to classification and so bears upon attempts to develop parks and other recreation provision on a systematic basis.

Classification is commonly used in the planning of park systems for two reasons: firstly, it is a convenient and reliable way of ordering resource data into a framework that facilitates policy decisions about allocation, management and conservation; and, secondly, it lends itself to the task of relating the type of provision to the capability of the resources in a way which is consistent with goals for recreation and/or conservation and with the needs of the population which will use that provision. It is emphasised that the planning issue is the development of a system of opportunities which, by incorporating sufficient diversity of resources and facilities, has the flexibility to assimilate growth in demand for recreation. The source of growth may be an increase in population, or growth in material welfare, technological capacity, and so on. To the conservationist the issue is likely to be the capacity of habitats or individual sites which have some particular importance related to their amenity and/or natural

history interest. To the environmentalist this issue is likely to be subsumed or transformed by consideration of the relationship between the importance of the site or habitat and the quality of human life.

6.4 EXAMPLES OF CLASSIFICATION AND ZONING IN SUPPORT OF SYSTEM GOALS FOR CARRYING CAPACITY

The concept of recreation carrying capacity has been enthusiastically received because of its apparent relevance to the problem of how to plan and manage parks and the countryside for the dual purposes of recreation and conservation. Because recreation pressure is seen as the source of the problem, any concept which suggests that objectively derived limits on the number of park visitors are feasible, is bound to be popular. Yet, despite the copious literature on the subject, little progress appears to have been made towards practical application. The fundamental problem remains how to determine carrying capacity before it is exceeded. The solution has generally been assumed to require detailed and comprehensive evaluation of the natural and cultural features of parks, but this is expensive, time consuming, and difficult. More immediately applicable methods of resolving the conflict of objectives have therefore had to be found. Even where comprehensive inventories of resources are available, the man-land relationships which determine their carrying capacity are not well understood. The common response in park planning has been to develop a system of zoning in which broad assumptions are made, firstly, about

the value of particular land systems, i.e., the extent to which they must be preserved unmodified by the activities of man, and secondly, about the amount of modification that can be expected from various recreational pursuits. It is important to bear in mind that zones are not objectively determined realities, and that zonation, like carrying capacity, is an operational concept.

In order to illustrate some of the available approaches for relating goals for recreation and conservation to the control of competition through park classification and zoning, brief reference is made to four park systems in Canada.

1. The Policy of Parks Canada in Relation to National Parks

Planning in Canadian National Parks is based on a statement of purpose for each park. Zoning is a concept used in administrative and development control with the aim of achieving optimum use of the available land resource within the limitations imposed by this purpose. In order to achieve this aim the zoning policy must define areas within the park in terms of acceptable use and development. The main criteria for acceptability relate to the type and extent of use and to the means of access, these factors being considered important to the conservation of natural values and natural features in the parks and the quality of experience they afford.

In theory, zones cover a degree of identifiable human impact ranging from wilderness to permanent townships. Not

every park will have either of the latter or the full set of intervening zones, but, if a park has certain qualities which were part of the reason for its establishment, the zoning plan will be required to ensure the survival of those qualities. Zoning is therefore regarded as essential for long range planning in order to ensure continuity of development despite changes in the administration of the park.

The zoning policy of Parks Canada first developed in response to a perception of overuse of some parks during the boom in recreation demand in the 1950s. The system of zoning is still under review, but in its present form identifies five classes of area:

Class I - Preservation Areas
Class II- Primitive Areas
Class III - Natural Environment/Outdoor Activity Areas
Class IV - Recreational Facility Areas
Class V - Visitor Services Areas.

Class III areas serve as a buffer between land intended for preservation and land intended for development. In some circumstances these areas may be considered more specifically transitional and management guidelines in each park will normally specify the facilities and activities that are consistent with Class II pending final determination of zones.

Because the system of zoning is so closely related to the purposes of the parks it should be emphasised that the primary role of the parks is to protect a designated portion of one of the 48 identified natural regions called Natural Areas of Canadian Significance. The purpose of this pro-

tection is "for the benefit, education and enjoyment of the people of Canada". The specific attributes to be protected are "significant geographical, geological, biological or historic features" and the degree of protection is to be such as to "leave them unimpaired for the enjoyment of future generations" [9].

The other major purpose of zoning is not stated in general policy documents but clearly emerges at the stage of master planning of individual parks. Zoning is there used to separate activities and land uses that may be incompatible. The general procedure for zoning at the master planning stage is:

(1) Identification of special features, i.e., those which are rare, unique or outstanding, susceptible to impairment or, in more extreme cases, endangered (e.g., species liable to extinction). These areas are classified as Zone I and afforded the highest degree of protection and preservation. Public access may be restricted.

(2) Lands not allocated to Class I are then reviewed and areas important as high quality examples of natural history themes, where minimal impact on resources is desirable and "back country" opportunities are to be protected are classified as Zone II.

(3) Areas experiencing heavy pressure by visitors or identified as suitable for intensive use are then classified as Zones IV and/or V.

(4) Land suitable for dispersed recreation, and passive activities such as picnicking and valuable for interpretive visitor services is classified as Zone III, as is land otherwise transitional between Zones II and IV such as agricultural landscapes which are culturally significant.

2. The Policy of the Ministry of Natural Resources in Relation to Ontario Provincial Parks

As with the Canadian National Parks, the policy for zoning in the Ontario Provincial Parks is both closely related to the purpose for which a park was designated and essential to the master planning process. There is one important difference of degree, in that the Province has a more highly developed park classification and this facilitates a more specific statement of the purpose of each park on which to base zonation. The classes at present in operation are:

(1) Wilderness Parks (formerly Primitive Parks)
(2) Waterway Parks (formerly Wild River Parks)
(3) Natural Environment Parks
(4) Recreation Parks
(5) Nature Reserves
(6) Historical Parks.

The zoning policy of Ontario recognises that, though the principle purpose of a park is established through its classification, the park may have significant resources, features and potential experiences not all of which relate to the principal purpose [10]. Zoning is necessary to allow the best use of such a resource consistent with the objectives of the individual park and the park system as a whole. Further details of the use of the zoning system as an interpretive tool, and an example of its application to planning and management of one particular park, may be found in a forthcoming paper [11].

3. The Policy of Recreation, Parks and Wildlife Department in Relation to Alberta Provincial Parks

Provincial Parks Policy in Alberta is, in general terms,

based on acceptance of two basic obligations.

(1) Preservation and conservation of resources, sites, features and attributes which are unique, rare, or representative ... and which collectively constitute a non-renewable heritage resource, valuable for the social, scientific, educational and aesthetic benefits it can yield; and

(2) Provision of a comprehensive range of recreational opportunities on public land, the utilisation of which permits the user population to engage in stimulating, fulfilling and restorative leisure pursuits in a natural resource oriented, out-of-door environment.

These two principles give rise to five sub-goals for the system:

(a) preservation;
(b) conservation;
(c) resource oriented recreation;
(d) environmental appreciation; and
(e) scientific research.

These goals are supported by the embryo park classification, which is designed to provide guidelines for planning, management, operations and to enable a balance to be achieved between recreation and conservation objectives both for the system as a whole and for individual parks. As with the classification in Ontario it serves the additional purpose of a conceptual tool for public education and interpretive planning. Again, distinction is drawn between the classification and zoning schemes, but in time the two will be developed to be compatible without duplication. An interim zoning scheme presently operates with five classes:

(a) preservation;
(b) wildland;
(c) natural environment;
(d) recreation; and
(e) reserve zones.

Four variable criteria are generally applicable to the allocation of areas to different classes:

(1) The relative significance of the resource. (There are two ways in which significance could be assessed firstly, as to whether the resource was representative of a particular land system and, secondly, whether the resource was a unique or outstanding feature);

(2) The amount of manipulation that should be permitted given this significance;

(3) The accessibility of the resource relative to existing demand and potential demand if it were incorporated into the park system; and

(4) The potential to increase the diversity of the system compared with the potential as an expansion of existing components.

No extra comment on the first three criteria is considered necessary, but it is noted in regard to the fourth that it seems perfectly feasible that, if an area is considered to increase the diversity of the system, its status as a conservation area could be set much higher than if it were simply a re-inforcement. The addition of reinforcing areas should, however, allow a review of all areas in that class.

4. The Policy of the Department of Recreation and Conservation in Relation to British Columbia Parks

The British Columbia Park Classification differs to some degree from the three others considered, in that recreation goals are more explicitly stated. There are three classes of park determined on the basis of the publics they are designed to serve and the degree of protection against alienation or exploitation they afford.

Class A parks are intended to preserve outstanding natural, scenic and historic features for public recreation, and are afforded a high degree of legislative protection against exploitation and alienation.

Class B parks are also intended primarily for the protection of the national attractions they contain but other use of the resource is permitted provided it does not unduly impair value for recreation.

Class C parks are intended primarily for the use of local residents and are generally managed by local park boards. Some are kept in a natural state, whereas others may be extensively developed and provide for organised sport.

These four examples have been cited to illustrate the common use of classification and zoning as tools by which to create the equivalent of niches in which one set of goals for conservation and recreation is given dominance and/or protected from competition. It is observed that though the general purpose is the same, the details are highly dependent on the values of the organisation which frames the policy. Thus although in all four examples the conservation of resources in parks was the primary goal, the orientation towards recreation increased in the order given.

The example of Parks Canada showed the strongest attempt to obtain control so as to ensure conservation, the intention being to state which types of use and development are acceptable,

exclude the others, and separate incompatible activities in order to avoid conflict. The Ontario example was similar but there is a more specific statement of purpose for each park. It can be suggested that the policy of Parks Canada specifies a more limited range of 'niches' with the main differences between parks being related to the resources they conserve, while the policy in Ontario creates greater diversity and a higher likelihood that conditions suitable for strongly competitive activities will be provided. The policy in Alberta, pays particular attention to the objectives of the system as a whole, relating the zoning of individual parts in a more unified concept in which the recreational role is not subservient to preservation. The policy in British Columbia ensures that recreational objectives will be encouraged provided they can be supported by the resource and the main protective role is the exclusion of other forms of land use, in particular the extraction of resources, i.e., the goal is to create a range of recreational environments.

The point to be made is that the granting of special status by designation as a park, clearly does not provide adequate control of competition such as would reduce conflict. In the four systems quoted it has proved necessary to intervene to ensure that carrying capacity is not exceeded. Although the concept of zonation is not without its problems, particularly in relation to the definition of zone boundaries, zones nevertheless provide a working method through which to manage parks in accordance with carrying capacity objectives. As it has been suggested that zones are equivalent in concept

and function to niches in biotic habitats it is therefore concluded that, just as there are processes of adaptation and adjustment related to niche maintenance, so similar processes must be developed within the recreation and park planning and management system if its classification and zoning policies are to have a real relationship to the carrying capacity problem. Development of this argument requires further consideration of the concept of carrying capacity.

6.5 DISCUSSION OF THE CONCEPT OF CARRYING CAPACITY

The examples quoted show that classification and zoning in park planning is closely related to the goals for parks and park systems. These goals, though based on the generalised goals of society, are given their specific content by the decision-makers in the park service. In most cases they must then be endorsed by government and this endorsement is likely to depend to some degree on the arguments used by other parties having interests in the use of the land or in the principle of provision for recreation and conservation by the public sector. It is suggested that this results in two classes of issue; firstly, the propriety of the classification and zoning policy; and, secondly, its effectiveness. Both issues are relevant to carrying capacity, but the first is more likely to be concerned with the full system and the whole of a park, while the second is likely to raise the technical issues of individual sites and facilities.

It is therefore suggested that, at the system level, the

main areas of conflict are the ordering of priorities for land use and for government expenditure in support of goals for recreation and conservation; at the park level, the main issues are related to the competing demands of specific land uses or activities and the achievement of some balance between them; and at the site level, the main issues are the durability of the resource under different intensities of use and the degree of satisfaction users obtain from a visit to the site. One point of particular interest is that the time perspective of these areas of conflict decreases in order of concern with the carrying capacity of thesystem, the park, and the site.

The carrying capacity of a park system might be defined as:

> The ability to provide continuously within the system an experience or range of experiences which will satisfy a specified need or set of needs.

This suggested definition can be contrasted with the numerous current definitions in the literature which almost invariably deal with individual parks or resources rather than with park systems as a whole. These definitions usually contain some numerical specification. For example, Chubb and Ashton defined annual carrying capacity as:

> "The number of user-unit-use periods that the recreation site can provide each year without permanent biological or physical deterioration of the site and its ability to support recreation, or appreciable impairment of the recreational experience" 12.

Held, Brickler and Wilcox attempted a definition more specifically applicable to management problems:

> "(The) capacity of an area in terms of man days (or man hours per day) of recreation use that can be tolerated without irreversible deterioration of the physical environment and without diminishing user satisfactions to the point that the park experience is no longer pleasurable. Any condition is considered irreversible if it is not economically, socially, politically, or aesthetically feasible to return to the former situation within a relatively short time even though it is technically possible to do so" 13.

This definition is most useful if the effect of a number of levels of use up to some "absolute level ... just short of complete and irreversible destruction.." [14] can be made available to managers, but here again the focus is on the resources rather than on the recreation experience.

The amount of research necessary to implement this procedure is likely to be beyond the reach of most park authorities. A most useful reduction in the amount of testing might be achieved if it were possible to identify the intensity of use beyond which it was necessary to undertake certain levels of design work to ensure against erosion or to permit control of visitors, though the difficulties of monitoring and inventory suggest that even this would be impossible for a complete park system. It would be advantageous if attention were directed more at the visitor's response to actions by management than at the reaction of the resource to the activities of visitors. Consideration of the issues discussed in Chapter 2 and earlier in this Chapter suggest that the potential success of management is greatest if it deals with 'responses' where the adaptive capacity is high, rather than with 'reactions' where it is lower. Thus, rather than addressing the issue of carrying capacity in

terms such as:

> "What fluctuations in the environment can be expected under different use patterns?" 15

It may be better to ask:

> what different patterns of use may be expected to follow upon changes in the park environment?

To do this throws more attention on management <u>for</u> people rather than protection <u>from</u> people and should be more compatible with a long-term interest in park systems.

6.6 CLARIFICATION OF THE CONCEPT

It is generally accepted that the term "carrying capacity" requires some qualifying adjective(s) when it is used in the fields of planning and management for outdoor recreation and countryside conservation. The adjectives most commonly applied are:

(a) Ecological - which mainly relates to the impact of recreation on the soil and on plant and animal ecosystems;

(b) physical - which relates to the limits of built facilities;

(c) psychological or social - which relates to degree of satisfaction of users or user-groups; and

(d) recreational - which relates to some combination of the above or to the lowest threshold of any one.

Pfister and Frenkel have evaluated the concept, largely within the context of systematic management of waterways, and they present yet another definition of carrying capacity as:

> THE ABILITY OF A RECREATION RESOURCE TO SUSTAIN OR SUPPORT A USER POPULATION AT A MEASURABLE THRESHOLD BASED UPON SPECIFIED GOALS AND STANDARDS" [16].

Four principles are contained within this definition and these provide a suitable framework for discussion of the concept.

1. CARRYING CAPACITY IS GOAL-ORIENTATED

The way in which carrying capacity is determined depends upon the prior formulation of goals. Pfister and Frenkel make the point that introduction of an adjective such as "ecological" does not convey operational meaning to the theoretical concept of carrying capacity, but rather focuses on the type of goal which must be formulated. If goals are linked to recreation values the carrying capacity approach would concentrate on relationships between user groups. If goals require protection of certain environmental conditions then emphasis may be placed on the relationship between natural environment and the users. This conclusion supports Barkham's view that "in whatever way it is bolstered with adjectives" the concept of capacity "develops some notion of a quality experience" [17]. Because the appreciation of 'quality' is closely linked to perceptions which vary within a population and through time, it is clear that all statements of carrying capacity include assumptions which, whether about deteriorating experience of the user or unacceptable ecological consequences, are value judgments. Goals are inevitably related to perceptions about what changes are acceptable. It is possible, therefore, to envisage a hierarchy of goals progressing from rather sweeping statements of national or regional applicability, through increasingly refined goals

for specified activities and environments down to the level of sites. Each goal would necessarily derive from higher order goals. It follows that determination of carrying capacity for any area within a park, or any park within a park system, should be seen as a 'means' by which to pursue the goals for the whole system. This supports Pfister and Frenkel's view that carrying capacity "is not a goal in and of itself" [18].

2. GOALS REQUIRE STANDARDS TO IDENTIFY LIMITS TO USE

When goals have been formulated it is necessary to establish measures or standards relative to each goal so that it is possible to check or monitor whether they are being achieved. Such standards must be derived for the area of application and with a known segment of the population in mind. Standards, which will reflect the values placed on the resource or recreation experience, should as far as possible be based on empirical evidence collected at the location for which they will be applied or from a similar situation elsewhere. Uniform standards throughout a region are impractical. For example, the National Playing Fields Association standards for sports facilities in Great Britain have been a useful planning tool, but have been adopted and applied too rigidly, i.e., without adjustments for local conditions and goals.

3. CAPACITIES MAY FLUCTUATE OVER TIME

Because limiting factors are related to dynamic social

and natural systems, capacity as defined by those factors is susceptible to change. However there is a tendency for 'thresholds' to become permanently established because of lack of monitoring of change in the limiting factors. While most such changes in social or natural factors may be gradual, changes due to management may be dramatic. For this reason Pfister and Frenkel stress the point that "site management must reflect the intent of goals and standards" because "changes in site management mean that there will be changes in the limiting factor which determines carrying capacity" [19]. (emphasis added) For example, the installation of a chemical toilet can suddenly reduce a limiting factor related to biological breakdown of excrement and dramatically increase capacity. At a regional scale the improvement of access or a significant increase in the provision of accommodation could have a similar effect.

4. THRESHOLDS ARE DETERMINED BY LIMITING FACTORS

This is the principle which seems to be both most difficult and most important. Many social and environmental factors potentially limit recreation, but which ones will actually limit use depends on the values on which goals are based. Where the goal is protection of resources the limiting factors will differ from those which operate when the goal is maximisation of recreation opportunities. Should a uniform standard be set throughout a region the "weakest" site is likely to cause initial concern. If different standards apply to different users, activities and environments then the limiting

factors will vary from site to site. Separate consideration of each site should, however, follow rather than precede the formulation of regional goals for only then will a consistent hierarchy of goals be established.

The question of how limiting factors can be used to determine measurable thresholds is not explained by Pfister and Frenkel, and it was noted earlier in this Chapter (p.262) that thresholds are difficult to predict. It was suggested that a threshold is a level at which intensity of interaction is such that a more positive response than tolerance (adaptation) is necessary. Chorley and Kennedy [20] define a threshold as a condition marking the transition from one state or economy of operation to another. Threshold theory is increasingly used by planners to make decisions on investments and threshold analysis is used to reveal certain categories of development costs associated with the exceeding of physical, quantitative and structural capacities[21]. It is possible to recognise certain ecological thresholds relevant to particular environments, e.g., a reduction of vegetation cover sufficient to cause surface run-off to initiate channel flow and cause gullying, or the amount of trampling or number of vehicle passages that is sufficient to eliminate a species of plant from a particular habitat. The identification of social thresholds is, however, more complex, and they are less reliable as a basis for generalisation. The interactions between different groups of users and the effects of overcrowding at recreational sites are

matters which require much further study before generalisations are possible. The analysis of issues in this thesis shows that further study of the conflicts that arise over planning proposals is equally, if not more necessary. Pondy [22] suggests that many conflicts about specific planning proposals turn about the philosophical issues of utopian and ideological thought rather than on more pragmatic problems. A similar 'elevation' of the basis of conflict is suggested by the issues raised in the conflict over the establishment of national parks in Great Britain, though here it might be said that the issues raised by the proponents, although more egalitarian, were not necessarily more 'philosophical'. The difference appears to be that the values underlying the proponents' motives were more related to third order needs than were the values of the opponents. Pragmatic problems did arise and were important to the result, but it is suggested that in most cases (e.g., the problem of the abilities of local authorities to plan and carry out the necessary developments) these problems were not insoluble but were used to support the ideological objections.

6.7 CONCLUSION

This analysis has shown that the two concepts, zoning and carrying capacity, are closely related and there is a tendency to see in them a potential tool to resolve many of the problems of park planners and managers which stem from the conflicting purposes of parks. The major problem is that their use in support of preservation objectives requires

much more comprehensive knowledge of what is to be preserved, why, and from what. One question which arises is "should zoning be the outcome of, or the framework for, resource evaluation?" If zoning must wait upon detailed evaluation it is possible that patterns of use may develop which are detrimental to the preservation objective and hard to reverse. On the other hand, if zoning precedes comprehensive resource evaluation, or follows one which is superficial, there is a danger that areas will be misallocated, that inappropriate development will be permitted and incomplete ecosystems reserved. An ideal resource evaluation should presumably cover:

(a) inventory of biophysical components;
(b) analysis of processes of environmental change; and
(c) estimation of the effect of recreation as an agent of environmental change.

Because it is clear that the urgency of the problem often precludes delay while this information is obtained, the main use of zoning probably will continue to be as an administrative tool, for example in justification of restrictions on access, even if its success in ensuring preservation can be questioned. However, the close relationship between zoning and classification also suggests that both will continue in use as a means of discriminating not only between the purpose of areas within parks but also between parks within a system of parks, and for control of recreation and other land-uses in the countryside in general. The selection of areas for designation as Areas of Special Planning Control (ASPC) under the Countryside (Scotland) Act, 1967 is cited as an example of zoning in this

wider context. Though only one such area has been notified, the intention to apply this legislation to others raises potential for conflict similar to that over outright proposals for national parks, particularly as the motive for their application is essentially the same. The existing ASPC covers the Pentland Hills and some further comments are included in the discussion of the proposal for a regional park for that area. Here it is noted that this is an example of zoning for administrative and control purposes which has had wider implications for the ability to establish a system of such zones and which, because it was applied in the urgency of gaining control and justifying recreational development, has restricted as well as assisted park planning.

Zoning policy will also be concerned with specification of the type of activity consistent with the goal for a zone, whereas carrying capacity must consider the numbers performing those activities. The specification of activity type is the principle behind proposals for zoning being prepared for the embryonic Pentland Hills Regional Park.

It seems reasonable to suggest that, once zones are defined and provided their boundaries are flexible, inventory of resources and ecological studies could proceed with more purpose, particularly in regard to the impact of designated activities within a zone and this could lead to improvements in the estimation of carrying capacity. Though both concepts have much to offer there is reason for concern as to the speed

with which they can be combined in general systems of control.

Carrying capacity will be a more useful tool for management and planning if it has some predictive ability. If it is possible to recognise that a 'threshold' had been passed only when change becomes irreversible, then the concept will be of little help. However attainment of predictive ability in the near future seems unlikely and the main value of the concept may lie in identification of potential for conflict, either between the goals for a park or park system and demands of its users, or between the users themselves. The key to control of such conflicts will for some time continue to be the manipulation of physical capacity, both at the site and the regional scale.

Finally it is suggested that, although there is obvious value in manipulation of conditions within a zone (equivalent to an organism adapting its niche to suit its requirements), this is less effective than the alternative method of inducing changes in the environment to produce conditions which are more favourable to maintenance of the zone or niche. As a parallel to this, it is suggested that Chapter 5 has shown that the attempt (on the part of the objectors to proposals for national parks and the development of access) to maintain existing conditions in the Scottish countryside was successful because major changes in the environment (i.e., in land-use legislation) were prevented. Although the ability to prevent any change has declined continuously, this is the area in which the major adjustments to conflict are made.

Conflict in the countryside itself has not been prevented, but the Countryside Commission for Scotland is constrained to attempt to induce changes in the environment of the planning system that will enable it to attack the problem. Its attempt to establish a park system, to operate as a type of classification and zoning tool for control, must be achieved in this competitive environment. The adjustments made in the proposal in response to this competition will determine the structure of the park system and, therefore, its carrying capacity.

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CHAPTER 7 : REVIEW AND DISCUSSION

7.1 INTRODUCTION AND SUMMARY

In the preceding chapters, several ecological concepts have been adapted because of their value as analogies of recreational land-use and the planning system related to it. The first concern has been to emphasise that the relationships between an individual and his physical and social environments have important effects upon his attitudes toward and recreational activities in the countryside. The second concern has been to note that the satisfaction obtained from activities is influenced not only by objective standards for the physical environment but also by the values the individual holds about natural and social environments. This chapter provides a review and discussion of these points.

In Chapter 2 attention was directed towards the growth in concern about Man's impact on natural environment which led to an emphasis on conservation and Nature-oriented recreation. The contrast between Man and Nature and between city and wilderness was seen to have taken several different emphases throughout history, and it was suggested that the current pre-occupation with the supply and consumption of recreation opportunities at low densities in predominantly natural environments risks their misuse by significant numbers of people who come to them holding a different set of values. While much attention is paid to

attempts to 'cure' this problem it was suggested that the better course is prevention which would involve much greater attention to treatment of the problem at its source. In the context of outdoor recreation that implies the provision of a system of opportunities relevant to the recreation needs of the population as a whole rather than the values of the most Nature-oriented individuals.

Because one of the main arguments in this thesis is that planning for countryside recreation in Great Britain is dominated by a conservation 'ethic', the idea that Nature has 'rights' was discussed to support the distinction between conservationist and environmentalist perspectives. At issue is the question of whether the protection and management of resources are means or ends [1]. It is suggested that the conservationist concern is more specifically with objects which are perceived as being or liable to be 'spoiled', changed, or destroyed, while the environmentalist concern is extended to include the source of the forces for change. Conservationists emphasise the prevention of change, environmentalists emphasise the redirection of change along lines which, if widely adopted, would make much conservationist concern unnecessary. The first was expressed as "saving" and the second as "redeeming" in their emphasis upon Nature, so that the one suggests that Nature must be conserved by protecting it from Man as an agent of change, and the other suggests that Man and Nature must be brought into greater harmony. The environmentalist position is seen to be better fitted to motivate

behaviour directed at positive goals rather than the avoidance of bad results.

Reference was made to the dissonance between the public interest in parks and the values of park authorities. It was suggested that a "tribal ideology" can divorce professionals from genuine consideration of the public interest because, just as the tribesman (i.e., member of a tribal society) is highly socialised, so the professional's judgment is not independent of his own social and professional background [2]. This possibly raises two central issues, firstly, the values of the pressure groups and sectional interests who influence those involved in making decisions about recreational and park planning and management and, secondly, the common need for them to sanction proposals for new provision or development. In this respect conservation-oriented groups, being well organised and having an identifiable common cause, are both vocal and powerful, whereas recreation interests can be in competition amongst themselves and/or unrepresented by any influential lobby. Some recreational pursuits, such as mountaineering and sailing, are able to uphold their interests, but it should be noted that these groups are more specialised and more likely to ally themselves with conservationists than with other recreation pursuits with which they are in stronger competition.

Though conservationists express alarm at proposals for improvement of recreational access to the countryside,

it has been argued that recreation is not a significant agent of extensive change. Although local problems do occur, on the wider scale recreational interest has often restrained (though not prevented) change due to agricultural innovations and urbanisation because it has given additional impetus to the making of policies for environmental management which are directed towards better balance between objectives for development and conservation. The common incompatibility of these objectives may lead to an air of crisis and to intervention through the planning system in an attempt to gain control. It is suggested that where it is thought necessary to control recreation in the countryside, the most beneficial response would be systematic provision of parks and recreation facilities from an environmentalist perspective, i.e., through concern with the quality of life. Such a perspective would give greater attention to the importance of place as the setting for relationships between people.

One factor contributing to the perception of a crisis in countryside recreation is the effect of vocal support for low intensity recreation on the values of other recreationists. One of the most controversial issues in park and recreation planning is the preservation of wilderness and the particular recreational experiences it supports. The raising of public values for wilderness could exacerbate rather than ease the pressure on remaining wilderness because it could lead to an increase in the already rising rate of demand. It is suggested that greater recognition

should be given to variability in motivation towards recreation and to the quality of recreational environment in and near urban areas, particularly in urban parks. This raises the question of the role of parks in serving environmental needs.

It has been suggested that recreational behaviour arises from some felt need and is directed towards a goal of satisfaction of that need. Like all goals, recreational goals are based on values. Recreation behaviour is, therefore, responsive rather than reactive and the theory that countryside recreation is motivated by a need to escape from the city is called into question. Recreation, it is argued, is not so much coping behaviour as behaviour in which an attempt is made to improve one's self-image through a desired experience in a supportive environment [3]. Conservation may ultimately depend on knowledge of why Man behaves in ways which cause environmental problems. His social and cultural as well as his individual motivations are, therefore, of critical importance. The implication for planning is that attention should be redirected from the sense of responsibility for facilities to a greater sense of responsibility for people. The ability to conserve fragile values will be improved not only by drawing people away from the most highly valued resources, but also by elevating the quality of opportunities which serve their needs. The question of what these needs are, and how attention is directed towards them, was the subject of Chapter 3.

Cameron's definition of a need as a condition of unstable or disturbed equilibrium in an organism's behaviour was accepted as a basis for discussion because of its reference to change in relationship to environment as the cause of stress. Change, or the perception of likelihood of change, is here suggested as the prime factor generating conflicts over land use, particularly where the needs in question are related to individual values. It is the author's view that individual wants are overemphasised through lack of understanding that recreational needs may be less directed towards being in the countryside and more towards being active in the countryside [4]. Activity patterns are not so dominated by individual wants and 'needs for self-actualisation' as the actions of planners and the arguments of objectors appear to suggest. Much recreation planning is directed towards providing 'more of the same' or diverting demand to protect low-intensity areas without a sufficient attempt to fulfil the needs being expressed by that demand. People do, after all, visit the provision that is available and perform the activities which are provided, whether or not these are the most relevant to their needs.

In the context of Cameron's reference to needs being activated by a change in relationship to the environment, it is the author's view that environment is itself relational, i.e., the environment of an organism <u>is</u> the relationship between it and its surroundings - not the surroundings

themselves. This is why stress is important. Stress is an attribute of environment, and it was noted that both a deficiency and surplus of stress are unfavourable. It is of interest that Maslow's concept of the prepotency of needs suggests that stress is not felt until a higher priority need is satisfied. It has been argued that the amount of satisfaction required varies between individuals but that, on the evidence of leisure sociologists such as Burch, Cheek, Field, Burdge, Lee and others, individuals are characteristically influenced by "social circles" or "life styles" in their leisure pursuits. It seems, therefore, that studies on the substitutability of recreation activities which pay attention to life styles may be more useful if they assist in the definition of recreation archetypes, i.e., types of recreationists towards whose needs the planning of recreation environments could be directed. This does not necessarily mean that an individual would be a member of one archetype at all times but rather that, for any particular need or set of needs, provision should encourage particular relationships with surroundings, including other people. This can be seen to imply the creation of a greater diversity of recreation environments.

The problem then is how to structure that diversity and this becomes an important issue in park system planning because it is the way the parts of the system are arranged (i.e., its structure) not the sum of its parts, that is the system. The discussion of classification and zoning showed that park planners have identified a need to provide

and protect a range of environments but, apart from some rough 'rules of thumb' about the appropriate distance between these different environments and the sources of recreational demand, supported by attempts to add explanation by use of gravity models and similar techniques [5], there seems to be inadequate attention to the arrangements of parts in relation to the satisfaction of need compared with the attention given to the capability of sites to sustain a certain level of use.

The suggestion is made, therefore, that the problem with classification and zoning, and the attempts to build a structure on the basis of predictive models, is that they both tend to dictate the choices that the recreationist can make. The parallel that has been drawn with ecological and system concepts may be extended to suggest that an increase in diversity and a reduction of entropy in the recreation system would be achieved by extending the range of choices, not dictating them. This would mean, however, that the choice would not simply be between activities but rather between environments capable of stimulating a range of attitudes. An attitude was earlier defined as a propensity to behave in a certain manner, and a stimulus is an input of energy or change in energy capable of arousing a response [6]. Stimuli may be either biophysical or sociocultural, and the response to a stimulus depends on whether it is perceived to be desirable or undesirable. The discussion of stress in Chapter 6 supports the conclusion that the art of recreation planning may lie in being able

to maintain a creative tension between stimulation towards activity consistent with the values of the planning system and the individual's accustomed or 'uneducated' way of doing things. The recreation or park authority therefore may need to promote environments rather than activities. It is suggested that there is a need for the natural environment to be seen as a source of desired <u>experiences</u> rather than as a source of desired <u>things</u>, but recognition must be given to the fact that it is much easier to measure the supply and consumption of things (e.g., the proportion of camping capacity utilised) than it is to measure the quality of (camping) experience. Measures of participation are often acquired because some quantified statement of achievement is necessary to justify the existence of an organisation.

7.2 DISCUSSION

Emery and Trist's discussion of the relationship between an enterprise and its environment is also relevant to park planning and they suggest that the basic need of a system is not self-maintenance by internal regulation or defence of position (status or share of market) against encroachment, but rather "to relate the total system to its environment" [7]. This means willingness to change, possibly in a radical manner, as the environment changes. The principle of 'equi-finality' of systems suggests that progress can be made from a variety of starting conditions and in a variety of ways, and this principle is here taken to suggest that regional inequalities in the resources and

facilities available for recreation, and different patterns of recreational use, need not prevent progress towards a total system. Emery and Trist suggest that one way of progress is increasing elaboration of structure and the adoption of new functions but that, though this may make the system more independent of fluctuations in its environment (i.e., it can survive because only some parts of the system are affected), it is at the risk of excessive consumption of the system's capital, skill and energies. They suggest that the management alternative is to control the forms of exchange with environment, to select a long run rather than a short term, 'satisficing' objective which "places the 'enterprise' in a position in its environment where it has some assured conditions for growth" [8].

The planning system would also need to ensure that the behaviour patterns it attempted to stimulate were not in overt conflict with the values of other interests in the land and, further, to ensure that these patterns were not planned around frameworks that did not reflect the adaptability of man (i.e., his capacity for social, technological and communicative adaptation beyond the physiological adaptation that dominates 'lesser' species).
Here reference can appropriately be made to Hewitt and Hare's suggestion that

> "regular or repetitive features of settlement patterns, institutions and social communications systems may recur <u>mainly because they permit versatile responses to events</u>" [9].
> (emphasis added)

This argument is taken to support the author's point in Chapter 6 that there always is the risk that the boundaries of zones will be both permanent and impermeable with the result that much of the energy of the planning system would be directed at maintaining the integrity of zones (or classes of park) not based on human needs and therefore subject to increased conflict. It seems likely that there would be three main results - decay of the resource, dissatisfaction on the part of the user of the resource and, because both increase the propensity for attacks on the planning system, threat to the 'security' of the planners. The quotation from Hewitt and Hare suggests that one important requisite for zones may be that they are repetitive throughout the countryside and, therefore, that development based on the correlation of intensity of use or relevance to level in the hierarchy of needs with distance from source of demand may be counterproductive.

Allied to this problem and, in the author's view, of critical importance is the tendency to establish zones with a single or very limited range of purposes so unrelated that lessons learnt in one are hard to apply to others. The most obvious reason for this is that zones are so often based (at least in those countries with national parks which conform to the standard set by the International Union for the Conservation of Nature) on ecological criteria alone. Apart from the extremely complex requirements for data, this approach has the disadvantage that little is known, firstly, about how to detect when progress is not

towards the system's goals (i.e., the system is going wrong), or, secondly, about how to change the trajectory when it is known to be off course. It could be added that some assurance that the goals are 'correct' may be desirable. Here, too, the issue of the conservation ethic again arises because there is a tendency for conservation goals to be unrealistic, i.e., "it is impossible not to disrupt nature" [10] as conservationists tend to demand. As will be shown in Chapter 9, a particular variation on this point can be seen in the conservationists' objections to the creation of parks in Scotland, particularly the proposed Pentland Hills Regional Park. The comparison is not, as the conservationists suggested, between the park and an unchanged environment but between a park in a changing environment and what that environment is likely to become without park status. One of the most important attributes of parks is the impression they give, at least for the conservationist, of being 'unchanging' in a world in which rapid change is the norm and human capacity to cause change seems unlimited. National parks may acquire a quality of sacredness which causes their supporters to regard attempts to change them as taboo. Conflict deepens because planners' attempts to meet wider social goals threaten the territorial interest of those for whom a park has this special value. Attempts to adapt the system of recreational places to perceived problems of the recreation environment also bring the planning system into conflict with established interests. The distinguishing feature of conflicts over environment is that for some this sense of

conflict is carried over and maintained even when the actual conditions of conflict do not exist. In other words, conflict about crowding and behaviour continues with little if any abatement whether or not the individual is present in the area of conflict. He may in fact never have been there or even have thought of going there.

Some other points arise from the issues discussed in Chapters 2 to 6, and although these are not directly related to those above, it is considered that they arise from the discussion and are relevant to what follows in the remaining chapters.

7.3 VARIETY AND THE FALLACY OF ANTI-SOCIAL ACTIVITY

A system goal phrased in terms such as "provision of outdoor recreation opportunities adequate for all the people" need not imply that most needs be met in each park. What is necessary is to balance needs with quality in a way which is responsive to different densities of use. There appears to be an excessive concern with low density, leading to attempts to determine the location and extent of high densities on abstract aesthetic grounds rather than by re-inforcing spontaneous patterns of differentiation which have a broader basis. Such patterns develop in response to individual satisfactions, and because there are so many individuals seeking satisfaction, the policy should be to maximise the variety of the system. Variety is a criterion applicable to individual parks and to a system

as a whole. Areas used at higher density must have higher variety. The elements which make up variety have both breadth and depth, but many policies accentuate breadth and discount depth.

Breadth focuses on incorporation of representative samples (at least) of major elements of cultural and natural heritage, to be passed on to future generations unimpaired. There is a tendency to put all investment towards this one purpose, failing to support it with resources which are less rare, i.e., those in which use does not threaten the system with serious impairment.

Depth focuses on providing sufficient resource to allow the pattern of use to develop spontaneously, i.e., to obviate the feeling that every dedication has to be protected from impairment in its entirety. That level of protection inevitably means that in every park there will be a suite of rules about what can and cannot be done. It may be reasonable to have strict rules about behaviour in 'heritage' areas but they may be impossible to enforce unless there are alternative areas where the visitor can receive environmental stimuli similar to those sought from the heritage area through performing an activity in the desired fashion.

Given continued concentration on activities rather than the motives for them, there is some need to consider what recreation activities are least restrictive of other uses.

The almost automatic answer to this is that the man on foot, because he causes less ecological damage, is the best for high intensity use, e.g., "one can envision a recreation area where annual carrying capacity might be

> 1,000,000 man days on foot
> 250,000 man days on horseback
> 100,000 man days with motorised recreation vehicles" [11].

It is believed, sometimes on sound evidence, that shod hooves do more damage than shod feet, while snowmobiles and trail-bikes are very destructive to the land. It follows that if an area can support ten times as many walkers as riders, there will be more variety if it is restricted to walkers. But this is not quite true, even though another argument is introduced to support it. It is commonly contended that motorised recreation vehicles cause both ecological and aesthetic ruin, and this is sometimes true, but it is not necessarily the case that these areas "could be expected to service larger numbers of people, a wider range of people and a broader socioeconomic range of people .. (and) to provide opportunity for a fuller spectrum of recreation activities" [12]. It simply is not true that, because an area has a higher ecological capacity under one use, that it will be used by a greater number or variety of people. Unpublished research by the author has indicated that trail-bike riders have the same range of motivation as walkers, e.g., there is an identical range of tolerance between large, noisy groups and solitary matching of personal abilities with the challenge of the wilderness. The

fact is that the recreation areas with the lowest density of users and the least variety of user and type of use, are those areas strictly reserved for wilderness walkers. The walker is far more intolerant of other recreation uses than any other use is of the walker, and this statement is generally applicable to walking even at the intensive end of the scale. An area may have ecological potential to support a greater number of walkers than riders but it should not be expected that it will do so, or that those who do walk will be any more representative of the total community than the riders of motorised recreation vehicles. The walkers threshold of conflict is very low and not only extends to other types of user but to other walkers as well.

The conclusion to be drawn from this argument is that carrying capacity will not necessarily be increased by excluding activities which cause stress and conflict. Because there is pressure on park authorities to reserve parks for certain types of activities, zoning will normally be essential. There is always a danger, however, that pressure from interest groups will both restrict the variety of zones and force the park authority to devote a disproportionate quantity of its resources and effort to protecting their integrity.

7.4 DIFFERENCES IN ATTITUDE AND BEHAVIOUR

Attention is now directed towards the different attitudes to wild places shown by different visitors. It has

previously been noted that an attitude is a propensity to behave in a certain manner, i.e., it has been distinguished in this study from belief and feeling. Many recreation studies, however, attempt to explain behaviour in terms of attitudes and the search for factors which give rise to certain attitudes frequently concentrates on education and social or cultural experience. This approach is unsatisfactory because the holding of an attitude is an incomplete explanation for behaviour. There is a need for study in much greater detail of the question of what activates an attitude. It is one thing to know the distribution and frequency of attitudes, it is another to know the distribution and frequency of situations which activate them. The suggestion that situations are important is equivalent to saying that attitudes generate action in response to some environmental stimulus.

This point raises the question why environmental stimuli appear to have different force for different individuals. Thus the same environment will be the setting for purposeful, clearly-directed behaviour by one individual and non-specific, poorly-directed (almost restless) behaviour by another. It seems that the environment provides a well-defined attraction for the one and an ill-defined but nevertheless powerful attraction for the other. This environmental attraction might be correlated with the type of need the experience is undertaken to satisfy.

It may be that behaviour patterns in accordance with

the "higher" needs of the Maslow hierarchy reflect individuality, while those in the middle reflect conformity. The higher needs of knowledge and self-actualisation are expressed in autonomous drives, identified by Angyal [13] as drives for (1) action (2) superiority (3) acquisition (4) exploration and (5) integrity.

The drive for action is seen not only in the urge to be doing things, expending energy towards some achievement, but perhaps also in the desire to know oneself as the agent of change. This supposition is based on the well-authenticated desire for mastery over Nature which so concerns many environmentalists [14]. The drive for superiority, particularly over fellow men, is another aspect of achievement-oriented recreation. Similarly, the drive for acquisition resulting in greater potential for dominance of both Nature and other men has its expressions in recreation behaviour; the current concern over the use of motorised recreation vehicles reflects concern at the effect of the drive to acquire ability to overcome the limitations of human ability through mechanical means. The drive for exploration to a considerable extent also reflects the desire for mastery because what is known or what has been visited is, in a sense, conquered. The drive for integrity has its particular recreation emphasis in inter-user conflicts as seen in the resistance of dominance by others, or the rules and norms set by others and more particularly in resistance - or at least objection - to the intrusion and possibility of intrusion of others into what is at least emotionally, regarded as

one's own. This attitude is particularly relevant to the wilderness ethic; it is not suggested that the wilderness supporter logically views wilderness as his possession, but there is an attitude that the simultaneous presence of others is, or would be, an intrusion and an offence to one's individuality.

The contrary drive - towards conformity - is more related to needs in the "middle" of the Maslow hierarchy. At this point it should be emphasised that the vertical emphasis of this hierarchy is unfortunate because of the connotation that higher needs are "better" needs, that the 'fulfilled' man is the one whose lower needs are satisfied and who so can concentrate on higher needs. The problem partly is that conformity, the preferred word, suggests dullness when what is meant is harmony. By the same token individuality suggests excitement and achievement, but the lack of a frame of reference other than the personal is increasingly seen as the source of many problems. Not the least of these is that satisfaction of individualistic needs so often seems to be at the expense of satisfaction of lower, including survival, needs of others. The most familiar form of this argument is that the maintenance of the standard of living of the average American is achieved at the expense of the inhabitants of poor and "underdeveloped" countries. Similarly, the recreational satisfaction of "higher" individualistic needs, such as the demand for wilderness and nature conservation, mitigates against the provision, not only in national parks but

elsewhere, of opportunities relevant to needs for interpersonal relations, social recognition and esteem, and simple, unspecialised "doing something in the outdoors". There would be less cause for concern if this only had its effect in the national parks or their equivalents, but the onflow from the attitude appears to be much greater, particularly as it relates to the perception of aesthetic quality and crowding.

There is a discernable bias to the effect that quality of outdoor recreation is not compatible with crowding, which leads to the view that a crowded recreation area, apart from being threatened by erosion, is poor aesthetically. Crowding therefore is resisted and crowded areas are seen as requiring treatment to restore their attractiveness. This view suggests that urban areas are largely beyond redemption because of their high population density. Despite this, it seems to the author that an extraordinary proportion of existing open space, even in highest density areas, fails to activate recreational attitudes, i.e., the population density may be high, but the open space virtually unused. The problem may be that the space does not create an environment relevant to the need for meaningful social action.

At the root of much of the difference in response to crowding and the problem of open space which, in terms of carrying capacity, is either under-used or over-used, lies a fundamental difference in the requirement for personal

space which appears to have a considerable social basis. Two points are particularly noted, first that the desire appears to increase dramatically with the transition from childhood to adulthood, and second that it correlates with what Bleibtreu [15] calls "social standing". He noted evidence which suggested that the changing need for territorial space is equally evident in humans and in animals, that just as "young animals prefer (sic) to annihilate personal space by swarming over one another in the nest or litter" so also children "like close personal contact" whereas "dominant adults prefer ever greater degrees of solitude". Bleibtreu's argument is that the more an individual has in the way of the world's goods and the more power, the more demand is made for inviolate personal space. "The private office, the secluded country estate are prerogatives of high social rank in human society". In contrast slum-dwellers appear ready to accept a certain amount of crowding and to find seclusion undesirable. He notes that many urban redevelopment projects have caused their inhabitants discontent by providing too much personal space for those who, by reason of social rank, gain a feeling of personal security from the close spatial relations with others which prevailed in their crowded dwellings.

7.5 RECREATION PLANNING IN A COMPETITIVE ENVIRONMENT

It is possible to identify some broad types of adaptation to the problem of irrelevance of open space to environmental needs. The most obvious are, firstly, the adaption

of behaviour to improve the suitability of the existing resources and space to provide the desired benefit and, secondly, movement to another place in search of the desired environment. These are individual responses. The most obvious response by the planning system is to develop adapted space, i.e., to modify or build (not necessarily in the original location) to suit the preferred activity.

There are similar adaptations in respect to access, e.g., adjustment to the availability, or change in the availability, of routes or means of access; adjustment of the route or method of access when the location of the objective changes; and design, again by the planning system, of new routes or methods of access so as to improve accessibility or to expand capacity. Such attempts to adapt the system of recreational places to perceived problems of the recreation environment bring the planning system into conflict with established interests. The distinguishing feature of conflicts over environment is that for some this sense of conflict is carried over and maintained even when the actual conditions of conflict do not exist. As was said (p.300) conflict about crowding and behaviour continues with little if any abatement whether or not the individual is present in the area of conflict. He may in fact never have been there, or even have thought of going there.

The discussion of the concept of 'niche' in Chapters 1 and 6 culminated in the suggestion that if a species must

compete not only with other species but also with sub-optimum conditions in its environment, then co-existence is possible in a single niche. As emphasised, this is analogous to competition between recreation and other uses of the land and between different recreational activities and the analogy is taken to support the central argument of this thesis that:

> Although recreation, conservation and other land uses such as farming and forestry may be in direct competition which at times indicates incompatibility and a natural trend towards mutual exclusion at their most intensive levels, there are forces in the environment which reduce competitive superiority and support multiple land use under tension. It is the control of these forces and manipulation of the tension which is the role of recreation and conservation planning for this determines the carrying capacity of the recreation environment.

7.6 CONCLUSION

The brief review of the key points from Chapters 2 to 6, and the discussion which followed, now leads to the conclusion that any structured system of human activities, such as a park system, is a product of its conflicts because it is through these that a distinct spatial pattern develops. This conclusion is now discussed. It suggests that the important issues are those in which people are prepared to act in a way which takes their disagreement beyond the threshold of adjustment in an endeavour to prevent a change, direct a change to another place, or to change the

circumstances in the environment through which the forces for change operate. In Chapter 2, reference was made to the difference between problems in ecology and problems of ecology as being, respectively, scientific and political problems. Here it is suggested that most problems concerning carrying capacity, at least beyond the level of the site (and, therefore, zoning and park classification), are problems of social planning and are, as such, political problems. Conflict in these areas operates not only on and through the physical structure, which is the parks and recreation provision, but primarily on the legal and administrative structure(s) for land-use planning and control. The function of the legal structure is to establish patterns for the solutions of conflicts, while that of the administrative structure is to direct and implement procedures for co-operation and adjustment.

In the discussion of issues and events in Great Britain it was seen that progress towards the establishment of parks, and the securing of public access to the countryside, both within and outside designated parks, was largely dependent on the ability to counteract the opposition of competing interests within the decision-making system and/or in respect to the land in question. In that account the disagreement, sometimes amounting to conflict, between various interests was seen to be particularly related to the issue of ownership of rights in and over land, and the benefit that ownership should provide. Conflict was greatest in two situations. The first was where one party believed

that he would lose rights or suffer some other form of deprivation (usually economic loss or added inconvenience) if another party obtained rights of access over, or powers to control development on, his (or similar) land. The second main situation in which conflict occurred was where different parties holding or seeking to secure rights other than ownership, assigned widely different values to the competing purposes for which the rights were desired. Both types of conflict can have a significant effect on the structure and function of a park system and its component parts.

In the British examples noted in Chapter 5, the institutional and interest-related conflicts prevented both the establishment of parks and significant improvements in the provision of public access in one case, and determined the nature and scope of the new administrative authority in respect of parks and access in the other. Subsequently, other conflicts developed over the numbers and behaviour of visitors to the areas designated as parks or secured for public access. As a result, not only was the existence and structure of provision determined but also the purposes to be served by it. The effect then was that the capacity of the park and access 'system' reflected the conflict which occurred over its development. In other words, the recreational carrying capacity of the park system and its individual components is a factor of the potential for conflict between the values of interested bodies and individuals.

This argument is intended to lead into the case study of issues raised by the competing interests in the Park System for Scotland and the Pentland Hills Regional Park which were mainly addressed through the political and planning systems. To reinforce the argument reference is made to Heberlein and Shelby who recently have noted what amounts to the difference between problems in and problems of carrying capacity. These authors suggest that biological studies can establish carrying capacities only on the basis of a value premise. For example, a carrying capacity for predators can be established under management objectives which value a diversified ecosystem with no species eliminating another. With different values, such as "no lambs or calves ought to be eaten by wolves", a different carrying capacity will be selected. It often appears that expert judgment can establish biological or physical capacity, but this is so only because the value premise is more likely to be shared than it is for sociological carrying capacity where there are many competing interests.[16]

The carrying capacity of a recreation environment, irrespective of whether or not it includes a park system, is not an absolute measure but rather a pattern of use at different levels designed to permit retention of a certain overall environmental quality. Any carrying capacity is therefore based on values and for this reason the political process must be involved. Some aspects of that involvement in Scotland are now considered.

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(3) see, e.g., CHRISTY, F.T. (1970) "Elements of Mass Demand for Outdoor Recreation Resources", in DRIVER, B.L. (ed.) Elements of Outdoor Recreation Planning. (Ann Arbor : University of Michigan Press) pp.99-103.

(4) see, e.g., JONES, B.G. (1969) "Human Need and Choice in the Environment", in M.M. HUFSCHMIDT (ed.) Regional Planning : Challenge and Prospects. (New York : Praegar) p.139.

"the fundamental things people are after are those that relate people to people but that do so in various states of removal ... People primarily want to relieve tensions but still want to have contact with others, and they express this desire by leaving the city and going to the rural environment".

(5) One example of "rules-of-thumb" is Clawson's three-fold division into resource-oriented, intermediate and user-oriented recreation areas. There are numerous papers on recreational travel, distance decay and the modelling of demand, e.g.,

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